Abdelhafid Boussouf University Center, Mila.
Institute of Natural and Life Sciences .
Department of Biotechnology.

Subject: Biostatistics.
Exercise series No: 4
Pr:S.Bensimessaoud

Exercise 1 Numerous clinical observations have shown that up until now:

- 30% of patients with disease M have a survival of less than one year.
- 50% have a survival between one and two years.
- 10% have a survival between two and five years.
- 10% have a survival greater than five years.

A new treatment is applied to 80 patients with disease M, and the following is observed:

- 12 have a survival of less than one year.
- 56 have a survival between one and two years.
- 8 have a survival between two and five years.
- 4 have a survival greater than five years.

What can be concluded? Use a significance level of $\alpha = 5\%$.

Exercise 2 We want to know if the success of a treatment (R) is independent of the patient's blood pressure level (T).

We have 250 observations distributed as follows:

T / R	Failure	Success
Low	21	104
High	29	96

Does the success of the treatment depend on the blood pressure level? Use a significance level of $\alpha = 5\%$.

Exercise 3 At a university where differentiated pedagogical initiatives are strongly encouraged, three groups of professors developed three different teaching methods for biostatistics. Each method was applied to separate student samples with the same initial level. At the final exam, the results were as follows:

Observed	Passed	Failed
Method-1	51	29
Method-2	38	12
Method-3	86	3

Can we say that one of the three methods is more effective than the others in terms of exam success? Use a significance level of $\alpha = 5\%$.