

## MICROSOFT EXCEL: DESCRIPTIVE STATISTICS

### Learning Objectives:

- Summarizing quantitative variables.
  - Graphical representation of quantitative continuous variables (histogram)
  - Descriptive statistics for (1) one variable and (2) two variables.
  - Interpret descriptive statistics results.
- Presenting results by using Microsoft Power Point:
  - Creating a PowerPoint file to present the results
  - Saving presentation as Power Point Show

### Problem

A study was carried out in order to assess two different therapeutic schemas for treatment of ferriprive anemia (iron deficiency) in newborn child. There were included into the study newborn from rural and urban environments. Two different schema were applied: a daily schema (once a day the mothers administrated the treatment to their child, every day of the week), and a bi-weekly schema (in Monday and Thursday mothers administrated to the child the treatment). The data were collected and stored in **Anemia.xlsx** file.

### Requests

1. Download the **Anemia.xlsx** file and save it in **Lab07** folder.
2. Insert a new sheet and name it **Histograms**. Copy in this sheet the quantitative continuous variables.
3. Create the histograms using the following upper values of classes:

F	G	H
BIN Birth weight (g)	BIN Haemoglobin (mg/dl) 6 month	BIN Haemoglobin (mg/dl) 12 month
1380	8,8	8,9
1830	9,6	9,8
2280	10,4	10,7
2730	11,2	11,6
3180	12	12,5
3630	12,8	13,4
4080	13,6	14,3
4530		

4. Insert a new sheet and name it **Descriptive statistics**. Copy in this sheet the following variable: "Birth weight (g)"; "Hemoglobin (mg/dl) 6 month"; "Hemoglobin (mg/dl) 12 month", and "Treatment schema".
5. Compute descriptive statistics parameters for quantitative variables.
6. Calculate the 95% confidence intervals for means using the results previously obtained.
7. Compute descriptive statistics parameters for **Hemoglobin at 6 and 12 months** for patients with *Daily treatment schema* and for patients with *Bi-weekly treatment schema*. Calculate the 95% confidence intervals for means using the results previously obtained.
8. Create a PowerPoint representation with the following structure:
  - 1<sup>st</sup> slide: title ("Summaries of Quantitative Variables"), author (your name) and authors' affiliation (as the name of University and the Faculty).
  - 2<sup>nd</sup> slide: Type of variables (title). Create and fill with the proper information the following table:

Variable name	Units of measurement (if applied)	Type of variable	Scale of measurement
Rural vs Urban			
Birth weight			
Type of milk			
Haemoglobin 6 month			
Haemoglobin 12 month			
Treatment schema			

- Type of variable: qualitative vs quantitative (discrete / continuous)
- Scale of measurement: Nominal, Ordinal, Interval, Ratio.

- 3<sup>rd</sup> slide: *Histogram of "Birth weight"* as title. Copy the Histogram from Excel.
- 4<sup>th</sup> slide: *Histogram of "Hemoglobin (mg/dl) 6 months"* as title. Copy the Histogram from Excel.
- 4<sup>th</sup> slide: *Histogram of "Hemoglobin (mg/dl) 12 months"* as title. Copy the Histogram from Excel.
- 5<sup>th</sup> slide: *Descriptive statistics* as title. Create a table in this slide to include the following parameters for all variables: mean and 95% confidence interval; Standard error; Kurtosis; Skewness; and Count.
- 6<sup>th</sup> slide: *Descriptive statistics: Treatment type* as title. Include the same information as on previous slide for Daily and Bi-weekly.
- 7<sup>th</sup> -  $\chi^2$  slide: *Results Interpretation* as title. Interpret the results obtained to the 7<sup>th</sup> request (just for parameters included in 6<sup>th</sup> slide).
- (x+1)<sup>th</sup> slide: Compare the mean of haemoglobin at 6 month with haemoglobin at 12 month based on 95% confidence interval. Is the mean of haemoglobin at 6 month significantly different by the mean of haemoglobin at 12 month?
- Final slide: The end slide.
- Save the presentation as Descriptive Statistics on **Lab07** folder as **PowerPoint Show**.