

## Example:

We want to investigate the mean value of mfERG of patients with diabetic maculopathy without CSMO who are 25 to 75 years old. We measured mfERG central intensity in 20 randomly chosen patients: 18.5, 19.5, 20.4, 20.7, 23.5, 23.8, 25.3, 26.7, 27.2, 28.0, 28.5, 29.5, 29.7, 30.7, 31.3, 31.8, 33.7, 33.9, 33.9 and 36.8.

### Population and parameter of interest

Population of interest:

Parameter of interest:

### Error bars using the sample standard deviation

In our sample of 20 patients we found mean and standard deviation of mfERG:  $\bar{x} = 27.67$  and  $s = 5.3135$

A 95% reference range for the mfERG for a person with DM without CSMO and age 25-75 would therefore be:

Approximately 95% of mfERG of 25-75 yrs patients with DM without CSMO lie in this interval.

### Error bars using the standard error of the mean

The standard error of the sample mean is estimated by:

The 95% confidence interval for the population mean is:

We are 95% confident that the true population mean lies within this interval.

### Plot of error bars

Which plot we use to see if value mfERG=20 is typical?

Which plot we use to illustrate a claim that the mean mfERG is less than 40?

