

Mean & SD Conversions

This Includes:

2) Median & Inter-quartile range:

If you want to estimate mean (\bar{x}) and standard deviation (σ)

from median(m) & Inter-Quartile Range(IQR), define the following values:

- 1) Median(m)
- 2) First Quartile (Q1)
- 3) Third Quartile (Q3)
- 4) Sample size in each group(n)

Put each of which into the corresponding cell of the Inputs >> click calculate >>

you'll get the data presented by mean and standard deviation in the Outputs squares

Inputs								
	Intervention A				Control			
Study ID	Q1	m	Q3	n	Q1	m	Q3	n
Study 1								
Study 2								
Study 3								

Outputs				
	Intervention A		Control	
Study ID	\bar{x}	σ	\bar{x}	σ
Study 1				
Study 2				
Study 3				

The outputs was calculated upon the following equations:

$$\text{Mean } (\bar{x}) \approx ((Q1+m+Q3)/3)$$

B) Standard deviation (σ):

If data presented as :

1) m(Q1, Q3):

$$\sigma \approx ((Q3-Q1) / ((2*z^{(-1)})(0.75n-0.125/n+0.25)))$$

$$\text{approximately } \sigma \approx (Q3-Q1/1.35)$$

where z is a constatnt symbol

2) m(IQR):

$$\sigma \approx (IQR/1.35)$$

References:

(1)

1. Wan X, Wang W, Liu J, Tong T. Estimating the sample mean and standard deviation from the sample size, median, range and/or interquartile range. BMC medical research methodology. 2014;14:1-13.

Keller, Thomas. (2014). Re: Is there any way to get mean and SD from median and IQR (interquartile range)?. Retrieved from:
https://www.researchgate.net/post/Is_there_any_way_to_get_mean_and_SD_from_median_and_IQR_interquartile_range/53296a11d11b8bce568b45f7/citation/download.