

Summary Worksheet of Key Formula's

Formulae for Altman's Nomogram to calculate sample size

Independent samples t-test =

$$\frac{\delta}{\sigma}$$

δ : is the smallest difference in means that is clinically important.
 σ : assumed equal standard deviation of the observations in each of the 2 groups

Paired samples t-test =

$$\frac{2\delta}{\sigma_d}$$

δ : is the smallest mean difference that is clinically important.
 σ_d : the standard deviation of the differences in responses

Chi-Squared test =

$$\frac{P_1 - P_2}{\sqrt{\bar{P}(1 - \bar{P})}}$$

$P_1 - P_2$: smallest difference in the proportion of 'success' in the 2 groups

To calculate $\bar{p} = \frac{p_1 + p_2}{2}$

Calculating effect size using Eta-Squared

Independent samples t-test =

$$\frac{t^2}{t^2 + (N_1 + N_2 - 2)}$$

Paired samples t-test =

$$\frac{t^2}{t^2 + (N - 1)}$$