

Formulae for Altman's Nomogram to calculate sample size

Independent samples t-test =

$$\frac{\delta}{\sigma} \quad \begin{array}{l} \delta: \text{is the smallest difference in means that is clinically important.} \\ \sigma: \text{assumed equal standard deviation of the observations in each of the 2 groups} \end{array}$$

Paired samples t-test =

$$\frac{2\delta}{\sigma_d} \quad \begin{array}{l} \delta: \text{is the smallest mean difference that is clinically important.} \\ \sigma_d: \text{the standard deviation of the differences in responses} \end{array}$$

Chi-Squared test =

$$\frac{P_1 - P_2}{\sqrt{\bar{P}(1 - \bar{P})}} \quad P_1 - P_2: \text{smallest difference in the proportion of 'success' in the 2 groups}$$

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