SUPPLEMENTARY MATERIAL

Significance level	Z score α /2 (critical value)
90% (α=0.1)	1.645
95% (α=0.05)	1.96
99% (α=0.01)	2.576

Significance level	Z value
90% (β=0.1)	1.282
80% (β=0.2)	0.84

$$n_1 = \left(\frac{r+1}{r}\right)\left(\frac{Z_{1-\alpha/2}+Z_{1-\beta}}{ES}\right)^2 \text{ where ES=effect size=} \frac{|\mu_1-\mu_2|}{\sigma}$$

$$n_1 = \left(\frac{r+1}{r}\right)\left(\frac{\sigma\left(Z_{1-\alpha/2}+Z_{1-\beta}\right)}{|\mu_1-\mu_2|}\right)^2$$

$$n_1 = n_2 = 2\left(\frac{\sigma\left(Z_{1-\alpha/2}+Z_{1-\beta}\right)}{|\mu_1-\mu_2|}\right)^2$$

$$n_1 = \left(\frac{r+1}{r}\right)\left(\frac{Z_{1-\alpha/2}+Z_{1-\beta}}{ES}\right)^2 \text{ where ES=effect size=} \frac{|p_1-p_2|}{\sqrt{\bar{p}\bar{q}}},\ \bar{p} = \frac{p_1+rp_2}{r+1}$$

$$n_1 = \left(\frac{r+1}{r}\right)\left(\frac{\bar{p}\bar{q}\left(Z_{1-\alpha/2}+Z_{1-\beta}\right)}{|p_1-p_2|}\right)^2 \text{. If } r=1 \text{, means equal groups}$$

$$n_1 = n_2 = 2\left(\frac{\bar{p}\bar{q}\left(Z_{1-\alpha/2}+Z_{1-\beta}\right)}{|p_1-p_2|}\right)^2$$

$$\bar{p} = \frac{p_1 + rp_2}{r+1},$$

$$p_1 = p_2\left(RR\right)$$

$$p_1 = \frac{p_2\left(OR\right)}{1+\left[\, p_2\left(OR-1\right)\right]}$$

$$n_1 = \frac{\left[Z_{1-\alpha/2}\sqrt{(r+1)\bar{p}\bar{q}} + \mathrm{Z}_{1-\beta}\sqrt{\left(rp_1q_1+p_2q_2\right)}\right]^2}{r\left(p_1-p_2\right)^2}$$

$$\ln\left(OR\right) \pm Z_\alpha\sqrt{\frac{1}{a}+\frac{1}{b}+\frac{1}{c}+\frac{1}{d}}$$

$$\ln\left(RR\right) \pm Z_\alpha\sqrt{\frac{b}{a\left(a+b\right)}+\frac{d}{c\left(c+d\right)}}$$