effect2

2023-08-18

파일 불러오기

```
effect2 <- read.csv("C:\\Users\\phl02\\Desktop\\P\\bio_sas\\data\\bin12.csv")
head(effect2)
```

```
##    study  a   b  c   d  ab  cd g
## 1 study1 15  55 10  60  70  70 1
## 2 study2 12  28  8  32  40  40 1
## 3 study3 28  52 14  66  80  80 1
## 4 study4 81 319 30 370 400 400 0
## 5 study5 15  25 21  19  40  40 0
## 6 study6 21  44 16  49  65  65 0
```

분석 진행

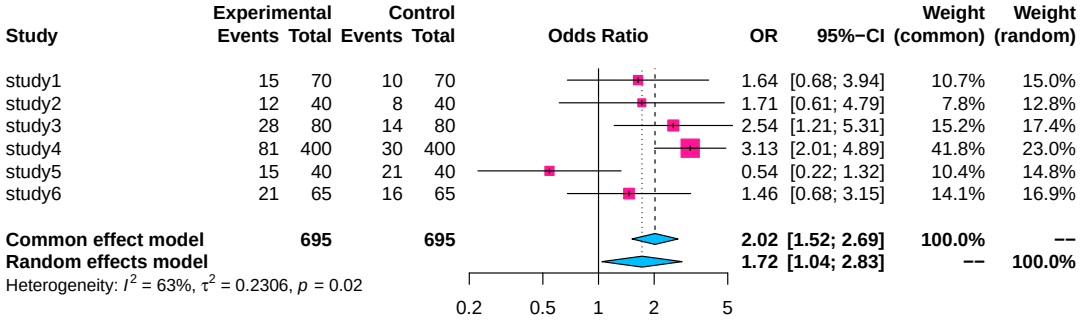
'metabin'명령어를 사용하여 분석을 진행

```
library(meta)
meta2 <- metabin(a,a+b,c,c+d,data=effect2,sm='OR',method='Inverse',study)
meta2
```

```
## Number of studies: k = 6
## Number of observations: o = 1390
## Number of events: e = 271
##
##                          OR           95%-CI    z  p-value
## Common effect model  2.0210 [1.5158; 2.6945] 4.79 < 0.0001
## Random effects model 1.7187 [1.0432; 2.8315] 2.13   0.0335
##
## Quantifying heterogeneity:
##  tau^2 = 0.2306 [0.0054; 2.0589]; tau = 0.4803 [0.0734; 1.4349]
##  I^2 = 62.8% [9.7%; 84.7%]; H = 1.64 [1.05; 2.56]
##
## Test of heterogeneity:
##      Q d.f. p-value
##  13.45    5  0.0195
##
## Details on meta-analytical method:
## - Inverse variance method
## - Restricted maximum-likelihood estimator for tau^2
## - Q-Profile method for confidence interval of tau^2 and tau
```

효과크기 확인

```
forest(meta2,col.diamond = 'deepskyblue1',col.square = 'deeppink1')
```



log

```
meta2_result <- c(2.0210,1.5158,2.6945,1.7187,1.0432,2.8315)
log<- log(meta2_result)
log
```

```
## [1] 0.70359244 0.41594335 0.99121266 0.54156819 0.04229291 1.04080661
```

결과 정리

```
library(kableExtra)
result2 <- matrix(0,2,9)
colnames(result2) <- c('OR','95% CI_low','95% CI_up',
                       'ES','95% CI_low','95% CI_up',
                       'p','Q(df)',expression(I^2))
row.names(result2) <- c('Fixed','random')
result2[1,1] <- round(meta2_result[1],2)
result2[1,2] <- round(meta2_result[2],2)
result2[1,3] <- round(meta2_result[3],2)
result2[2,1] <- round(meta2_result[4],2)
result2[2,2] <- round(meta2_result[5],2)
result2[2,3] <- round(meta2_result[6],2)
result2[1,4] <- round(log[1],2)
result2[1,5] <- round(log[2],2)
result2[1,6] <- round(log[3],2)
result2[2,4] <- round(log[4],2)
result2[2,5] <- round(log[5],2)
result2[2,6] <- round(log[6],2)
result2[1,7] <- round(meta2$pval.fixed,3)
result2[2,7] <- round(meta2$pval.random,3)
for (i in 1:2){
  if (result2[i,7] <0.001){result2[i,7] <- '<.001'}
}
result2[,8] <- paste(round(meta2$Q,2),'(', meta2$df.Q,')')
result2[,9] <- round(meta2$I2*100,2)
kable(result2)
```

	OR	95% CI_low	95% CI_up	ES	95% CI_low	95% CI_up	p	Q(df)	I^2
Fixed	2.02	1.52	2.69	0.7	0.42	0.99	<.001	13.45 (5)	62.81
random	1.72	1.04	2.83	0.54	0.04	1.04	0.034	13.45 (5)	62.81