ICCs SEs CIs for CH results

R function

```
FisherZtoICC=function(alpha,sd,df){
  ICC = (exp(alpha)-1)/ (exp(alpha)+1) #Estimated ICC using inversion FishersZ function
  ICC_SE = sd*2*exp(alpha)/(1+exp(alpha))^2
  alphaCI = c(alpha-qt(0.975,4)*sd,alpha+qt(0.975,4)*sd) #Estimated 95% CI using alpha using t-distribu
  #Estimated 95% CI of ICC using 95% CI of alpha using inversion FishersZ function
  ICC_CI = c((exp(alphaCI[1])-1)/(exp(alphaCI[1])+1),(exp(alphaCI[2])-1)/(exp(alphaCI[2])+1))
  print(paste0("Estimated 95% CI for Fisher's Z correlation parameter =", round(alpha,3), " is ", list(
  print(paste0("Estimated ICC for Fisher's Z correlation parameter =", alpha, " is ", round(ICC,3)))
  print(paste0("Estimated SE (delta method) of ICC =", round(ICC,3), " is ", list(round(ICC_SE,3))))
  print(paste0("Estimated 95% CI for ICC =", round(ICC,3), " is ",list(round(ICC_CI,3))))
}
```

For analysis results under GEEMAEE

transferring correlation parameters under fisher Z to ICC scale

For average intervention effects model,

```
FisherZtoICC(alpha=0.448,sd = 0.1847,df=4)
```

```
## [1] "Estimated 95% CI for Fisher's Z correlation parameter =0.448 is c(-0.065, 0.961)"
## [1] "Estimated ICC for Fisher's Z correlation parameter =0.448 is 0.22"
## [1] "Estimated SE (delta method) of ICC =0.22 is 0.088"
## [1] "Estimated 95% CI for ICC =0.22 is c(-0.032, 0.447)"
```

```
FisherZtoICC(alpha=0.291,sd = 0.1442,df=4)
```

```
## [1] "Estimated 95% CI for Fisher's Z correlation parameter =0.291 is c(-0.109, 0.691)"
## [1] "Estimated ICC for Fisher's Z correlation parameter =0.291 is 0.144"
## [1] "Estimated SE (delta method) of ICC =0.144 is 0.071"
## [1] "Estimated 95% CI for ICC =0.144 is c(-0.055, 0.333)"
```

For incremental intervention effects model,

```
FisherZtoICC(alpha=0.205,sd = 0.0982,df=4)
```

```
## [1] "Estimated 95% CI for Fisher's Z correlation parameter =0.205 is c(-0.068, 0.478)"
## [1] "Estimated ICC for Fisher's Z correlation parameter =0.205 is 0.102"
## [1] "Estimated SE (delta method) of ICC =0.102 is 0.049"
## [1] "Estimated 95% CI for ICC =0.102 is c(-0.034, 0.234)"
```

```
FisherZtoICC(alpha=0.105,sd = 0.1075,df=4)
```

```
## [1] "Estimated 95% CI for Fisher's Z correlation parameter =0.105 is c(-0.193, 0.403)"
## [1] "Estimated ICC for Fisher's Z correlation parameter =0.105 is 0.052"
## [1] "Estimated SE (delta method) of ICC =0.052 is 0.054"
## [1] "Estimated 95% CI for ICC =0.052 is c(-0.096, 0.199)"
```

For extended incremental intervention effects model,

```
FisherZtoICC(alpha=0.241,sd = 0.1153,df=4)
```

```
## [1] "Estimated 95% CI for Fisher's Z correlation parameter =0.241 is c(-0.079, 0.561)"
## [1] "Estimated ICC for Fisher's Z correlation parameter =0.241 is 0.12"
## [1] "Estimated SE (delta method) of ICC =0.12 is 0.057"
## [1] "Estimated 95% CI for ICC =0.12 is c(-0.04, 0.273)"
```

```
FisherZtoICC(alpha=0.096,sd = 0.0495,df=4)
```

```
## [1] "Estimated 95% CI for Fisher's Z correlation parameter =0.096 is c(-0.041, 0.233)"
## [1] "Estimated ICC for Fisher's Z correlation parameter =0.096 is 0.048"
## [1] "Estimated SE (delta method) of ICC =0.048 is 0.025"
## [1] "Estimated 95% CI for ICC =0.048 is c(-0.021, 0.116)"
```

For analysis results under GEEUEE

For average intervention effects model,

transferring correlation parameters under fisher Z to ICC scale

```
FisherZtoICC(alpha=0.378,sd = 0.3207,df=4)
```

```
## [1] "Estimated 95% CI for Fisher's Z correlation parameter =0.378 is c(-0.512, 1.268)"
## [1] "Estimated ICC for Fisher's Z correlation parameter =0.378 is 0.187"
## [1] "Estimated SE (delta method) of ICC =0.187 is 0.155"
## [1] "Estimated 95% CI for ICC =0.187 is c(-0.251, 0.561)"
```

```
FisherZtoICC(alpha=0.207,sd = 0.1117,df=4)
```

```
## [1] "Estimated 95% CI for Fisher's Z correlation parameter =0.207 is c(-0.103, 0.517)"
## [1] "Estimated ICC for Fisher's Z correlation parameter =0.207 is 0.103"
## [1] "Estimated SE (delta method) of ICC =0.103 is 0.055"
## [1] "Estimated 95% CI for ICC =0.103 is c(-0.052, 0.253)"
```

For incremental intervention effects model,

```
FisherZtoICC(alpha=0.171,sd = 0.0337,df=4)
```

```
## [1] "Estimated 95% CI for Fisher's Z correlation parameter =0.171 is c(0.077, 0.265)"
## [1] "Estimated ICC for Fisher's Z correlation parameter =0.171 is 0.085"
## [1] "Estimated SE (delta method) of ICC =0.085 is 0.017"
## [1] "Estimated 95% CI for ICC =0.085 is c(0.039, 0.132)"
```

```
FisherZtoICC(alpha=0.076,sd = 0.0548,df=4)
```

```
## [1] "Estimated 95% CI for Fisher's Z correlation parameter =0.076 is c(-0.076, 0.228)"
## [1] "Estimated ICC for Fisher's Z correlation parameter =0.076 is 0.038"
## [1] "Estimated SE (delta method) of ICC =0.038 is 0.027"
## [1] "Estimated 95% CI for ICC =0.038 is c(-0.038, 0.114)"
```

For extended incremental intervention effects model,

```
FisherZtoICC(alpha=0.209,sd = 0.8075,df=4)
```

```
## [1] "Estimated 95% CI for Fisher's Z correlation parameter =0.209 is c(-2.033, 2.451)"
## [1] "Estimated ICC for Fisher's Z correlation parameter =0.209 is 0.104"
## [1] "Estimated SE (delta method) of ICC =0.104 is 0.399"
## [1] "Estimated 95% CI for ICC =0.104 is c(-0.768, 0.841)"
```

```
FisherZtoICC(alpha=0.070,sd = 0.2867,df=4)
```

```
## [1] "Estimated 95% CI for Fisher's Z correlation parameter =0.07 is c(-0.726, 0.866)"
## [1] "Estimated ICC for Fisher's Z correlation parameter =0.07 is 0.035"
## [1] "Estimated SE (delta method) of ICC =0.035 is 0.143"
## [1] "Estimated 95% CI for ICC =0.035 is c(-0.348, 0.408)"
```