

Package ‘episheet’

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Type Package

Title Rothman's Episheet

Version 0.3.0

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Description A collection of R functions supporting the text book
Modern Epidemiology, Second Edition, by Kenneth J.Rothman and Sander Greenland.
ISBN 13: 978-0781755641 See <<http://www.krothman.org/>> for more information.

License GPL (>= 2)

URL <https://github.com/epijim/episheet>

BugReports <https://github.com/epijim/episheet/issues>

Encoding UTF-8

LazyData true

RoxygenNote 6.1.0

Depends R (>= 2.10.0)

Suggests knitr, rmarkdown, testthat

Imports dplyr, tidyr, ggplot2, magrittr, assertthat, rlang

VignetteBuilder knitr

NeedsCompilation no

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Repository CRAN

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R topics documented:

pvalueplot	2
risk	3
stratified_risk	4
tolbutamide	4

pvalueplot *Plot the p-value function*

Description

Plot the p-value function for one or two confidence interval pairs. See following for example of the use in the literature: Is flutamide effective in patients with bilateral orchiectomy? Rothman, Kenneth J et al. The Lancet , Volume 353 , Issue 9159 , 1184

Usage

```
pvalueplot(est1.ll, est1.ul, est2.ll = NA, est2.ul = NA,
  label1 = "Estimate 1", label2 = "Estimate 2",
  xlabel = "Relative Risk", citype = "95%CI", labelsize = NULL,
  functionwidth = 1, referencewidth = 1)
```

Arguments

est1.ll	Lower confidence interval of estimate 1
est1.ul	Upper confidence interval of estimate 1
est2.ll	Lower confidence interval of estimate 2 (optional)
est2.ul	Upper confidence interval of estimate 2 (optional)
label1	If using two estimates, name the 1st
label2	If using two estimates, name the 2nd
xlabel	The x axis label
citype	Choose between '95%CI', '90%CI' or '99%CI'
labelsiz	Change size of labels
functionwidth	Change width of pvalue function line
referencewidth	Change width of reference lines

Bugs

Code repo: <https://github.com/epijim/episheet>

Examples

```
pvalueplot(
  est1.ll = 0.9,
  est1.ul = 12,
  xlabel = "Relative Risk"
)

pvalueplot(
  est1.ll = 0.8,
```

```
    est1.ul = 3.8,  
    est2.ll = 1.2,  
    est2.ul = 2,  
    label1 = "Estimate 1",  
    label2 = "Estimate 2",  
    xlabel = "Relative Risk",  
    ci_type = "95%CI"  
  )
```

risk

Calculate risk ratio and risk difference

Description

Calculate risk ratios and risk differences

Usage

```
risk(data, exposure, outcome, ci_level = 95)
```

Arguments

data	A dataframe
exposure	Variable giving the levels of the outcome
outcome	Variable giving cases (1) or non-cases (0)
ci_level	a string giving the confidence interval

Value

A dataframe with the risk ratio, risk difference and confidence intervals

Examples

```
# Data from stratum 1 of table 15-1., p260  
dat <- data.frame(  
  exposure_var = c(rep(1, 8), rep(0, 5), rep(1, 98), rep(0, 115)),  
  outcome_var = c(rep(1, 8), rep(1, 5), rep(0, 98), rep(0, 115)),  
  stringsAsFactors = FALSE  
)  
risk(data = dat, exposure = exposure_var, outcome = outcome_var)
```

stratified_risk	<i>Stratified risk</i>
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Description

Calculate stratified risk estimates as per Chapter 15,

Usage

```
stratified_risk(data, exposure, outcome, stratifier, ci_level = 95)
```

Arguments

data	A dataframe providing the exposure, outcome and stratifying variable
exposure	binary variable giving the exposure status
outcome	binary variable giving the outcome status
stratifier	stratifying variable
ci_level	variable giving the limits for the confidence interval

Value

A dataframe giving an MH-adjusted risk ratio

Examples

```
data(tolbutamide)
stratified_risk(tolbutamide, exposure = tolbutamide, outcome = dead,
  stratifier = age)
```

tolbutamide	<i>tolbutamide data - chapter 15-1, p260</i>
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Description

Age-specific comparison of death from all causes for Tolbutamide and placebo treatment groups, University Group Diabetes Program (1970)

Usage

```
tolbutamide
```

Format

An object of class `data.frame` with 409 rows and 3 columns.

Details

@format A dataframe with 409 observations and 3 variables

tolbutamide Given Tolbutamide (1) or placebo (0)

dead Died (1) or surviving (0)

age Less than 55 (<55) or 55 and over (ge55)

Index

- *Topic **Rothman**
 - pvalueplot, 2
- *Topic **R**
 - pvalueplot, 2
- *Topic **datasets**
 - tolbutamide, 4
- *Topic **episheet**
 - pvalueplot, 2
- *Topic **pvalues**
 - pvalueplot, 2

pvalueplot, 2

risk, 3

stratified_risk, 4

tolbutamide, 4