Lifetable, KM, FH

Hening Cui

11/27/2022

Lifetable

male

```
##               tstart tstop nsubs nlost nrisk nevent       surv        pdf
## 0-100              0   100   103     0 103.0     17 1.00000000 0.0016504854
## 100-200          100   200    86     5  83.5     19 0.83495146 0.0018998895
## 200-300          200   300    62     7  58.5     18 0.64496250 0.0019845000
## 300-400          300   400    37     3  35.5      9 0.44651250 0.0011320035
## 400-500          400   500    25     3  23.5      6 0.33331215 0.0008510097
## 500-600          500   600    16     0  16.0      6 0.24821117 0.0009307919
## 600-700          600   700    10     0  10.0      4 0.15513198 0.0006205279
## 700-800          700   800     6     0   6.0      2 0.09307919 0.0003102640
## 800-900          800   900     4     2   3.0      1 0.06205279 0.0002068426
## 900-1000         900  1000     1     0   1.0      0 0.04136853 0.0000000000
## 1000-1100       1000  1100     1     1   0.5      0 0.04136853 0.0000000000
## 1100-1200       1100  1200     0     0   0.0      0 0.04136853        NaN
## 1200-Inf        1200   Inf     0     0   0.0      0        NaN         NA
##                  hazard    se.surv       se.pdf   se.hazard
## 0-100       0.001798942 0.00000000 0.0003657782 0.0004345389
## 100-200     0.002567568 0.03657782 0.0003920163 0.0005841662
## 200-300     0.003636364 0.04760067 0.0004158393 0.0008428131
## 300-400     0.002903226 0.05099700 0.0003507137 0.0009574916
## 400-500     0.002926829 0.05012019 0.0003259763 0.0011820092
## 500-600     0.004615385 0.04787378 0.0003499672 0.0018333649
## 600-700     0.005000000 0.04239983 0.0002941465 0.0024206146
## 700-800     0.004000000 0.03499672 0.0002137673 0.0027712813
## 800-900     0.004000000 0.02941465 0.0001952848 0.0039191836
## 900-1000    0.000000000 0.02587989          NaN          NaN
## 1000-1100   0.000000000 0.02587989          NaN          NaN
## 1100-1200           NaN 0.02587989          NaN          NaN
## 1200-Inf             NA        NaN           NA           NA
```
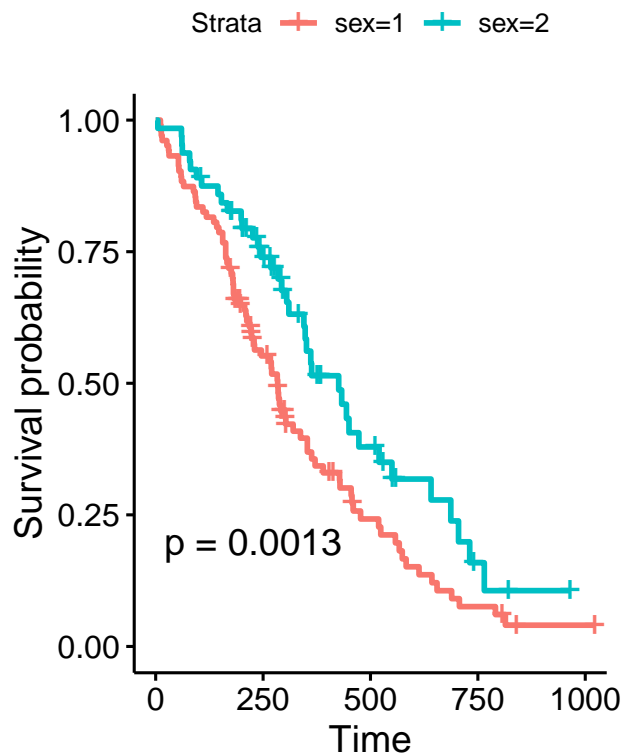
female

```
##           tstart tstop nsubs nlost nrisk nevent      surv          pdf
## 0-100          0   100    64     0  64.0      7 1.0000000 0.0010937500
## 100-200      100   200    57     3  55.5      5 0.8906250 0.0008023649
## 200-300      200   300    49    12  43.0      7 0.8103885 0.0013192371
## 300-400      300   400    30     4  28.0      7 0.6784648 0.0016961620
## 400-500      400   500    19     0  19.0      5 0.5088486 0.0013390753
## 500-600      500   600    14     4  12.0      2 0.3749411 0.0006249018
## 600-700      600   700     8     0   8.0      2 0.3124509 0.0007811272
## 700-800      700   800     6     1   5.5      3 0.2343382 0.0012782082
## 800-900      800   900     2     1   1.5      0 0.1065174 0.0000000000
## 900-1000     900  1000     1     1   0.5      0 0.1065174 0.0000000000
## 1000-1100   1000  1100     0     0   0.0      0 0.1065174          NaN
## 1100-1200   1100  1200     0     0   0.0      0       NaN          NaN
## 1200-Inf    1200   Inf     0     0   0.0      0       NaN           NA
##                 hazard    se.surv       se.pdf    se.hazard
## 0-100      0.0011570248 0.00000000 0.0003901364 0.0004365819
## 100-200    0.0009433962 0.03901364 0.0003440834 0.0004214300
## 200-300    0.0017721519 0.04931280 0.0004632460 0.0006671758
## 300-400    0.0028571429 0.06153038 0.0005761152 0.0010688223
## 400-500    0.0030303030 0.07219475 0.0005480368 0.0013395469
## 500-600    0.0018181818 0.07397516 0.0004217940 0.0012803251
## 600-700    0.0028571429 0.07367033 0.0005125726 0.0019995835
## 700-800    0.0075000000 0.07308191 0.0006375364 0.0040141352
## 800-900    0.0000000000 0.05982461          NaN          NaN
## 900-1000   0.0000000000 0.05982461          NaN          NaN
## 1000-1100           NaN 0.05982461          NaN          NaN
## 1100-1200           NaN        NaN          NaN          NaN
## 1200-Inf             NA        NaN           NA           NA
```
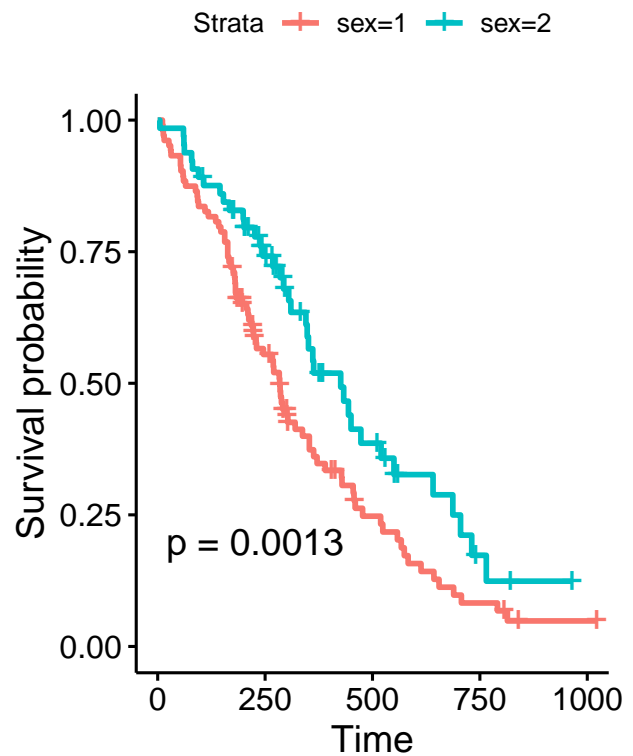
KM and FH

Kaplan–Meier

Strata ─┼─ sex=1 ─┼─ sex=2

Fleming–Harrington

Strata ─┼─ sex=1 ─┼─ sex=2

p = 0.0013

p = 0.0013

```
plot(lung.fit, conf.int = FALSE, col = "blue",
     xlab = "Time (Days)", ylab = "Estimated Survival Probability",
     main = "Comparison of S(t) between K-M and F-H methods")
lines(lung.fit2, conf.int = FALSE, col = "red")
legend("topright", c("Kaplan-Meier", "Fleming-Harrington"),
       col = c("blue", "red"), lty = 1, bty = "n")
```

Comparison of S(t) between K–M and F–H methods