

This file contains the script of the SPSS analyses used for the paper Grosche, B., H. Katayama, M. Hoshi, K. N. Apsalikov, T. Belikhina, Y. Noso and N. Takeichi (2017). "Thyroid diseases in populations residing near the Semipalatinsk Nuclear Test Site, Kazakhstan: Results from an 11 years series of medical examinations." SM J Publ Health Epidemiol 3(1).

```
SET Journal 'D:\begro\Documents\Artikel\2015\05_KAZ-SD-
RERF\Paper\SMJPubHEpid\analysis.jnl' .
SET OVars Labels ONumbers Labels TVars Labels TNumbers Labels.
EXECUTE .

GET
FILE='D:\begro\Documents\Artikel\2015\05_KAZ-SD-
RERF\Data\Analysis\nodoubles (complete)\nodoubles (complete)v2.sav'.
EXECUTE .

COMMENT *** Filter setting *** .
USE ALL.

COMPUTE filter_affsett=(affsett = 1).
VARIABLE LABEL filter_affsett 'affected sett. (FILTER)'.
VALUE LABELS filter_affsett 0 'Not Selected' 1 'Selected'.
FORMAT filter_affsett (f1.0).
EXECUTE .

COMPUTE filter_maffsett=(sex = 1 AND affsett = 1).
VARIABLE LABEL filter_maffsett 'males affected sett. (FILTER)'.
VALUE LABELS filter_maffsett 0 'Not Selected' 1 'Selected'.
FORMAT filter_maffsett (f1.0).
EXECUTE .

COMPUTE filter_nothyacan=(thyacan = 0).
VARIABLE LABEL filter_nothyacan 'no thyroid cancer (FILTER)'.
VALUE LABELS filter_nothyacan 0 'Not Selected' 1 'Selected'.
FORMAT filter_nothyacan (f1.0).
EXECUTE .

COMPUTE filter_males=(sex = 1) .
VARIABLE LABEL filter_males 'males only (FILTER)'.
VALUE LABELS filter_males 0 'Not Selected' 1 'Selected'.
FORMAT filter_males (f1.0).
EXECUTE .

COMPUTE filter_nothyaff=(thyacan = 0 AND affsett=1) .
VARIABLE LABEL filter_nothyaff 'no thyacan affsett (FILTER)'.
VALUE LABELS filter_nothyaff 0 'Not Selected' 1 'Selected'.
FORMAT filter_nothyaff (f1.0).
EXECUTE .

COMPUTE filter_mnothyaff=(sex = 1 AND thyacan = 0 AND affsett=1) .
VARIABLE LABEL filter_mnothyaff 'males no thyacan affsett (FILTER)'.
VALUE LABELS filter_mnothyaff 0 'Not Selected' 1 'Selected'.
FORMAT filter_mnothyaff (f1.0).
EXECUTE .

TITLE '*** Freqs vars for risk analyses ***' .
```

```
FREQUENCIES
  VARIABLES=Function2 thyca nodule agegrp sex affsett exp2
  /STATISTICS=MINIMUM MAXIMUM MEAN MEDIAN
  /ORDER= ANALYSIS .
FILTER OFF .
USE ALL.
EXECUTE .
```

```
CROSSTABS
/TABLES=exp2 BY affsett .
EXECUTE .
```

```
TITLE '*** Affected settlements ***' .
FILTER BY filter_affsett .
EXECUTE.
```

```
FREQUENCIES
  VARIABLES=Function2 thyca nodule agegrp sex affsett exp2
  /STATISTICS=MINIMUM MAXIMUM MEAN MEDIAN
  /ORDER= ANALYSIS .
EXECUTE .
```

```
TITLE '*** Hypothyroidism ***' .
FILTER OFF .
USE ALL .
EXECUTE .
```

```
FREQUENCIES
  VARIABLES=Function2 agegrp sex affsett exp2 medicine
  /STATISTICS=MINIMUM MAXIMUM MEAN MEDIAN
  /ORDER= ANALYSIS .
EXECUTE .
```

```
SUBTITLE '** simple crosstabulation **' .
CROSSTABS
/TABLES=agegrp sex affsett exp2 medicine BY Function2
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ CMH(1)
/CELLS= COUNT EXPECTED
/COUNT ROUND CELL .
EXECUTE .
```

```
SUBTITLE '** stratified by age or sex **' .
CROSSTABS
/TABLES=exp2 BY Function2 BY agegrp sex
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ CMH(1)
/CELLS= COUNT EXPECTED
/COUNT ROUND CELL .
EXECUTE .
```

```
SUBTITLE '** stratified by age and sex **' .
CROSSTABS
/TABLES=exp2 BY Function2 BY agegrp BY sex
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ CMH(1)
/CELLS= COUNT EXPECTED
/COUNT ROUND CELL .
```

```

EXECUTE .

SUBTITLE '** stratified by age and sex and medication **' .
CROSSTABS
  /TABLES=exp2 BY Function2 BY agegrp BY sex BY medicine
  /FORMAT= AVALUE TABLES
  /STATISTIC=CHISQ CMH(1)
  /CELLS= COUNT EXPECTED
  /COUNT ROUND CELL .
EXECUTE .

SUBTITLE '** affected settlements only **' .
FILTER BY filter_ffsett .
EXECUTE.
SUBTITLE '* stratified by age and sex *' .
CROSSTABS
  /TABLES=exp2 BY Function2 BY agegrp BY sex
  /FORMAT= AVALUE TABLES
  /STATISTIC=CHISQ CMH(1)
  /CELLS= COUNT EXPECTED
  /COUNT ROUND CELL .
EXECUTE .

SUBTITLE '* stratified by age and sex and medication *' .
CROSSTABS
  /TABLES=exp2 BY Function2 BY agegrp BY sex BY medicine
  /FORMAT= AVALUE TABLES
  /STATISTIC=CHISQ CMH(1)
  /CELLS= COUNT EXPECTED
  /COUNT ROUND CELL .
EXECUTE .

TITLE '*** Thyroid cancer ***' .

FILTER OFF .
USE ALL .
EXECUTE .

FREQUENCIES
  VARIABLES=thycan agegrp sex affsett exp2
  /STATISTICS=MINIMUM MAXIMUM MEAN MEDIAN
  /ORDER= ANALYSIS .
EXECUTE .

SUBTITLE '** simple crosstabulation **' .
CROSSTABS
  /TABLES=agegrp sex affsett exp2 BY thycan
  /FORMAT= AVALUE TABLES
  /STATISTIC=CHISQ CMH(1)
  /CELLS= COUNT EXPECTED
  /COUNT ROUND CELL .
EXECUTE .

SUBTITLE '** stratified by age or sex **' .
CROSSTABS
  /TABLES=exp2 BY thycan BY agegrp sex

```

```
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ CMH(1)
/CELLS= COUNT EXPECTED
/COUNT ROUND CELL .
EXECUTE .
```

```
SUBTITLE '** stratified by age and sex **' .
CROSSTABS
/TABLES=exp2 BY thycan BY agegrp BY sex
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ CMH(1)
/CELLS= COUNT EXPECTED
/COUNT ROUND CELL .
EXECUTE .
```

```
SUBTITLE '** affected settlements only **' .
FILTER BY filter_ffsett .
EXECUTE.
```

```
SUBTITLE '* stratified by age and sex *' .
CROSSTABS
/TABLES=exp2 BY Function2 BY agegrp BY sex
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ CMH(1)
/CELLS= COUNT EXPECTED
/COUNT ROUND CELL .
EXECUTE .
```

```
TITLE '*** Nodules ***' .
```

```
FILTER OFF .
USE ALL .
EXECUTE .
```

```
FREQUENCIES
VARIABLES=nodule agegrp sex affsett exp2
/STATISTICS=MINIMUM MAXIMUM MEAN MEDIAN
/ORDER= ANALYSIS .
EXECUTE .
```

```
SUBTITLE '** simple crosstabulation **' .
CROSSTABS
/TABLES=agegrp sex affsett exp2 BY nodule
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ CMH(1)
/CELLS= COUNT EXPECTED
/COUNT ROUND CELL .
EXECUTE .
```

```
SUBTITLE '** stratified by age or sex **' .
CROSSTABS
/TABLES=exp2 BY nodule BY agegrp sex
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ CMH(1)
/CELLS= COUNT EXPECTED
/COUNT ROUND CELL .
```

EXECUTE .

SUBTITLE '** stratified by age and sex **' .
CROSSTABS
/TABLES=exp2 BY nodule BY agegrp BY sex
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ CMH(1)
/CELLS= COUNT EXPECTED
/COUNT ROUND CELL .
EXECUTE .

SUBTITLE '** affected settlements only **' .
FILTER BY filter_ffsett .
EXECUTE .
SUBTITLE '* stratified by age and sex *' .
CROSSTABS
/TABLES=exp2 BY nodule BY agegrp BY sex
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ CMH(1)
/CELLS= COUNT EXPECTED
/COUNT ROUND CELL .
EXECUTE .

SUBTITLE '** excluding all subjects with thyroid cancer **' .
FILTER OFF .
USE ALL .
EXECUTE .
FILTER BY filter_nothyca .
EXECUTE .
SUBTITLE '* stratified by age and sex *' .
CROSSTABS
/TABLES=exp2 BY nodule BY agegrp BY sex
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ CMH(1)
/CELLS= COUNT EXPECTED
/COUNT ROUND CELL .
EXECUTE .

SUBTITLE '* affected settlements only *' .
FILTER OFF .
USE ALL .
EXECUTE .
FILTER BY filter_nothyaff .
EXECUTE .
SUBTITLE '* stratified by age and sex *' .
CROSSTABS
/TABLES=exp2 BY nodule BY agegrp BY sex
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ CMH(1)
/CELLS= COUNT EXPECTED
/COUNT ROUND CELL .
EXECUTE .

TITLE '*** Nodules, males only ***' .

```

FILTER OFF .
USE ALL .
EXECUTE .
FILTER BY filter_males .
EXECUTE .
SUBTITLE '** stratified by age **' .
  CROSSTABS
  /TABLES=exp2 BY nodule  BY agegrp
  /FORMAT= AVALUE TABLES
  /STATISTIC=CHISQ CMH(1)
  /CELLS= COUNT EXPECTED
  /COUNT ROUND CELL .
EXECUTE .

SUBTITLE '** Affected settlements only ***' .
FILTER OFF .
USE ALL .
EXECUTE .
FILTER BY filter_maffsett .
EXECUTE .
SUBTITLE '** stratified by age **' .
  CROSSTABS
  /TABLES=exp2 BY nodule  BY agegrp
  /FORMAT= AVALUE TABLES
  /STATISTIC=CHISQ CMH(1)
  /CELLS= COUNT EXPECTED
  /COUNT ROUND CELL .
EXECUTE .

SUBTITLE '** Affected settlements only, no thycan **' .
FILTER OFF .
USE ALL .
EXECUTE .
FILTER BY filter_mnothyaff .
EXECUTE .
SUBTITLE '** stratified by age **' .
  CROSSTABS
  /TABLES=exp2 BY nodule  BY agegrp
  /FORMAT= AVALUE TABLES
  /STATISTIC=CHISQ CMH(1)
  /CELLS= COUNT EXPECTED
  /COUNT ROUND CELL .
EXECUTE .

```