Dear experts

Regarding statistics to population survey, could you please tell me which one of the syntax using
for bivariate analysis [chi square] and what does different the meaning of each syntax like below:

1.
svy: tabulate sex malaria
and output here :

```
Number of strata   =       1          Number of obs    =    259,885
Number of PSUs     =    4,418         Population size  = 30,152,652
                          Design df        =     4,417


------------------------------
gender of |
responden |     malaria
ts      |   no    yes  Total
----------+--------------------
    male | .4744  .0185  .4929
  female | .4909  .0162  .5071
       |
   Total | .9653  .0347     1
------------------------------
  Key:  cell proportion

  Pearson:
   Uncorrected  chi2(1)      =   58.3020
   Design-based  F(1, 4417)   =   49.6352    P = 0.0000
```

2.
. svy: tabulate sex malaria, row
and output here :
 (running tabulate on estimation sample)

```
Number of strata   =       1          Number of obs    =    259,885
Number of PSUs     =    4,418         Population size  = 30,152,652
                          Design df        =     4,417


------------------------------
gender of |
responden |     malaria
ts      |   no   yes  Total
```

```
----------+-------------------
   male | .9625  .0375     1
 female | .968   .032      1
        |
  Total | .9653  .0347     1
------------------------------
  Key:  row proportion


  Pearson:
   Uncorrected   chi2(1)      =   58.3020
   Design-based  F(1, 4417)   =   49.6352    P = 0.0000
```

3.
. svy linearized : tabulate sex malaria, obs row percent ci

and output here :
 (running tabulate on estimation sample)

Number of strata =   1   Number of obs   =   259,885
Number of PSUs   =   4,418   Population size = 30,152,652
                              Design df   =   4,417

```
----------------------------------------------------------
gender of |
responden |              malaria
ts        |       no       yes      Total
----------+-----------------------------------------------
   male |       96.25       3.746        100
        | [96.01,96.48] [3.518,3.987]
        |       1.2e+05       5595      1.3e+05
        |
 female |       96.8        3.198        100
        | [96.57,97.02] [2.979,3.431]
        |       1.3e+05       4971      1.3e+05
        |
  Total |       96.53       3.468        100
        | [96.31,96.74] [3.257,3.692]
        |       2.5e+05      1.1e+04    2.6e+05
----------------------------------------------------------
  Key:  row percentage
     [95% confidence interval for row percentage]
     number of observations


  Pearson:
```

Uncorrected   chi2(1)   =   58.3020
Design-based F(1, 4417)   =   49.6352   P = 0.0000

How to make odds ratio for cross-sectional design survey? Should I make syntax for prevalence ratio or may I take directly odds ratio in the syntax below?

5.
. svy linearized : logistic sex malaria

and output here :
 (running logistic on estimation sample)

Survey: Logistic regression

Number of strata =   1   Number of obs   =   259,885
Number of PSUs   =   4,418   Population size = 30,152,652
                          Design df   =   4,417
                          F(1, 4417) =   49.54
                          Prob > F   =   0.0000

```
--------------------------------------------------------------------------------
            |           Linearized
      sex | Odds Ratio  Std. Err.    t   P>|t|    [95% Conf. Interval]
-------------+------------------------------------------------------------------
   malaria |  .8488294  .0197667   -7.04  0.000    .8109481    .8884803
    _cons |  1.034818  .0042681    8.30  0.000    1.026484    1.043219
--------------------------------------------------------------------------------
```

Based on the table above [chi square and binary logistic].

Where the sex variable which assumptions male is given code = 0 and female is given code = 1. Malaria prevalence differs by sex Males are more likely to have malaria than females (1.85% males versus 1.62% females, P = 0.000). Based on odds ratio (OR) female have the chances of getting malaria 0.85% or 0.85 times than male (as categorical reference)

How do I interpret an odds ratio less than 1 in a logistic regression?
May I will be written male with a chance of 1 / 0.85 times or 1.2 times to get malaria compared than female as well?

or

The odds of malaria in male decreased by (1 - 0.85) 15% compared those in a female. Whatever on the dependent variable decreases. For each unit increase, it decreases by a multiple of (1 -

OR)

Thank you in advance for your reply

Sincerely yours,

Hamzah