

# Speeding up the univariate part of cohort and case control analyses in Stata – the 'cstable' and 'cctable' commands



Peter Makary (1,2), Gilles Desve (3), J. Ollgren (2), M.J. Virtanen (2)  
 1. European Programme for Intervention Epidemiology Training  
 2. National Public Health Institute (KTL), Helsinki, Finland  
 3. EpiConcept, Public Health Information Systems, France



## Background

Outbreaks... For the cohort and case control analysis we use Stata (Texas, USA). Usually the first step is the univariate analysis. There might be several exposure variables (e.g. food items), and we like to summarize the univariate findings in one table. Doing this was time consuming. The newly developed Stata commands help to speed up the univariate part of the analysis.

## Univariate analysis

### Before

#### Command **cs**, **cc**

- Cohort or case control
- One command – one analysis
- One analysis – one table (Figure 1)

Figure 1. Result tables of command **cs**

```
. cs case tiramisu
```

	tiramisu Exposed	Unexposed	Total
Cases	45	7	52
Noncases	3	62	65
Total	48	69	117
Risk	.9375	.1014493	.4444444
Point estimate	[95% Conf. Interval]		
Risk difference	.8360507	.7372362	.9348653
Risk ratio	9.241071	4.56151	18.7213
Attr. frac. ex.	.8917874	.7807743	.9468649
Attr. frac. pop	.7717391		
chi2(1) = 80.14 Pr>chi2 = 0.0000			

```
. cs case mousse
```

	mousse Exposed	Unexposed	Total
Cases	41	5	46
Noncases	9	56	65
Total	50	67	117
Risk	.82	.1641791	.4444444
Point estimate	[95% Conf. Interval]		
Risk difference	.6558209	.5172288	.794413
Risk ratio	4.994545	2.86351	8.70591
Attr. frac. ex.	.7897816	.6510056	.8851355
Attr. frac. pop	.630597		
chi2(1) = 49.88 Pr>chi2 = 0.0000			

```
. cs case beer
```

	beer Exposed	Unexposed	Total
Cases	24	28	52
Noncases	44	21	65
Total	68	49	117
Risk	.3529412	.5714286	.4444444
Point estimate	[95% Conf. Interval]		
Risk difference	-.2184874	-.0976538	-.0393211
Risk ratio	.6176471	.4128027	.9241409
Prev. frac. ex.	.3823529	.0758591	.5871973
Prev. frac. pop	.2222222		
chi2(1) = 5.51 Pr>chi2 = 0.0190			

```
. cs case sex
```

	sex Exposed	Unexposed	Total
Cases	45	7	52
Noncases	51	14	65
Total	96	21	117
Risk	.46875	.3333333	.4444444
Point estimate	[95% Conf. Interval]		
Risk difference	.1354167	-.0895613	.3603946
Risk ratio	1.40625	.7405774	2.670267
Attr. frac. ex.	.2888889	-.3502978	.6255056
Attr. frac. pop	.25		
chi2(1) = 1.28 Pr>chi2 = 0.2580			

```
. cs case icecream
```

	icecream Exposed	Unexposed	Total
Cases	29	23	52
Noncases	15	50	65
Total	44	73	117
Risk	.6590909	.3150685	.4444444
Point estimate	[95% Conf. Interval]		
Risk difference	.3440224	.1680316	.5200132
Risk ratio	2.091897	1.403021	3.119009
Attr. frac. ex.	.521965	.2872521	.6793853

### After

#### Command **cstable**, **cctable**

- Cohort or case control
- One command – unlimited number of analyses
- One analysis – one row
- All results in one ordered summary table (Figure 2)
- Several sorting possibilities (e.g. by risk ratio, attack rate, p-value)
- Easy copy-paste of the whole table
- Results can be saved as Stata data file

Figure 2. Result table of command **cstable**

```
. cstable case tiramisu mousse beer sex icecream desert1 soup fish turkey desert2 > wine, nosort
```

	Exposed			Unexposed					
	Exposure	Total	Cases	AR%	Total	Cases	AR%	Risk Ratio	P
tiramisu	48	45	93.75	69	7	10.14	9.24	[4.56-18.72]	0.000
mousse	50	41	82.00	67	11	16.42	4.99	[2.87-8.71]	0.000
beer	68	24	35.29	49	28	57.14	0.62	[0.41-0.92]	0.019
sex	96	45	46.88	21	7	33.33	1.41	[0.74-2.67]	0.258
icecream	44	29	65.91	73	23	31.51	2.09	[1.40-3.12]	0.000
desert1	82	42	51.22	35	10	28.57	1.79	[1.02-3.15]	0.024
soup	93	46	49.46	24	6	25.00	1.98	[0.96-4.08]	0.032
fish	81	34	41.98	36	18	50.00	0.84	[0.55-1.27]	0.420
turkey	97	46	47.42	20	6	30.00	1.58	[0.78-3.19]	0.153
desert2	82	37	45.12	35	15	42.86	1.05	[0.67-1.65]	0.821
wine	91	41	45.05	26	11	42.31	1.06	[0.64-1.76]	0.804

## How to use

The syntax is:

```
cstable [varlist] [if] [in] [, options]
```

The first variable is the dependent (case) variable.

Example:

```
cstable case tiramisu mousse beer icecream, rr
```

(Printed helpfile is on the other side of the handout)

## Are you interested?

You can install it from the Internet. Type in the Stata command window:

```
net from http://www.epiconcept.fr/stata
```

(Other epi commands are also available from this site)

Or search the Internet in Stata by typing:

```
findit cstable
findit cctable
```