

# Vitamin C for preventing atrial fibrillation in high risk patients: a systematic review and meta-analysis

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## **Additional file 2**

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## Transformation of hospital stay to %-scale

### Reported hospital stay in days

Hospital stay	Vit C			Placebo		
	mean	SD	N	mean	SD	N
Antonic	9.37	5.27	52	8.77	5.27	53
Bjordahl	10.4	4.0	89	11.7	7.1	96
Colby	14.6	17.6	13	10.2	4.9	11
Dehghani	5.32	0.59	50	5.74	1.3	50
Donovan	6.8	3.6	150	6.8	4.9	154
Eslami	6.54	3.24	50	7.08	3.45	50
Papoulidis	7.9	6.0	85	9.8	6.0	85
Polymeropoulos	11.27	5.31	11	12.73	6.6	11
Sadeghpour	10.17	5.9	113	12.0	5.9	177
Sarzaeem	6.67	1.5	85	8.2	2.3	85
vanWagoner	6.53	3.15	172	6.62	3.15	166

### Calculated hospital stay with Placebo group mean = 100% These values are used for the primary analysis

Hospital stay	Vit C			Placebo		
	mean %	SD %	N	mean %	SD %	N
Antonic	106.84	60	52	<b>100</b>	60	53
Bjordahl	88.89	34	89	<b>100</b>	61	96
Colby	143.14	173	13	<b>100</b>	48	11
Dehghani	92.68	10	50	<b>100</b>	23	50
Donovan	100.0	53	150	<b>100</b>	72	154
Eslami	92.37	46	50	<b>100</b>	49	50
Papoulidis	80.61	61	85	<b>100</b>	61	85
Polymeropoulos	88.53	42	11	<b>100</b>	52	11
Sadeghpour	84.75	49	113	<b>100</b>	49	177
Sarzaeem	81.34	18	85	<b>100</b>	28	85
vanWagoner	98.63	48	172	<b>100</b>	48	166

For example,

In the Antonic (2016) trial,

vitamin C group duration is  $9.37/8.77 = 1.0684 = 106.84\%$  of the placebo group duration

## Transformation of ICU data from days to %-scale

### Reported ICU stay

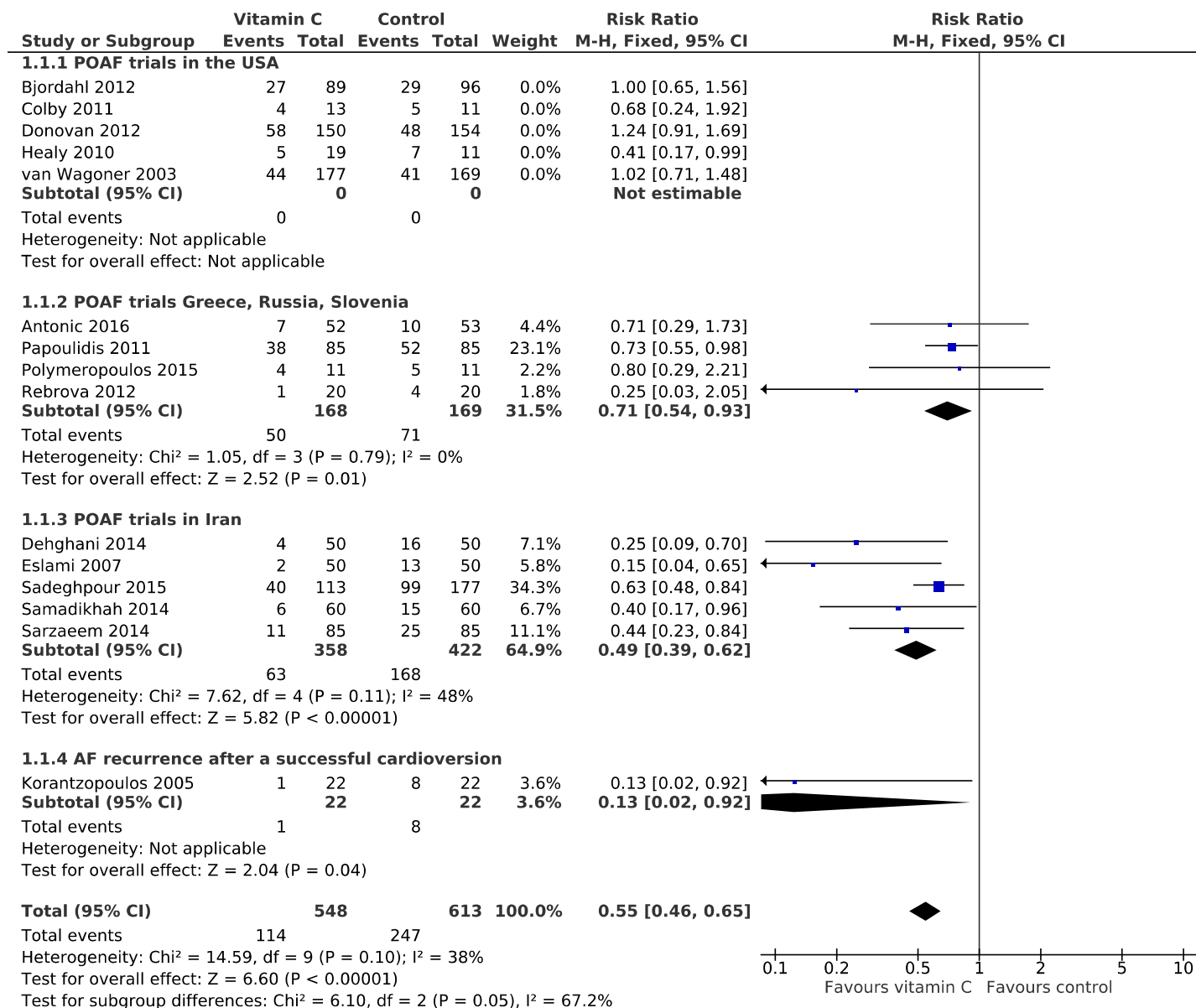
ICU stay (days)	Vit C		N	Placebo		N
	mean	SD		mean	SD	
Antonic	1.5	1.3	52	1.3	1.3	53
Bjordahl	3.7	2.2	89	4.3	2.9	96
Colby	4.43	10.41	13	2.04	1.8	11
Dehghani	1.79	0.31	50	2.1	0.61	50
Donovan	2,0	1.3	150	1.9	1.5	154
Eslami	2.3	1.6	50	2.6	1.48	50
Papoulidis	1.6	1.66	85	2.1	1.66	85
Sadeghpour	3.42	1.06	113	3.43	1.09	177
Sarzaeem	2.51	1.4	85	3,0	1.6	85

### Calculated stay with Placebo group mean = 100% These values are used for the analysis

	Vit C		N	Placebo		N
	mean	SD		mean	SD	
	%	%		%	%	
Antonic	115.38	100	52	<b>100</b>	100	53
Bjordahl	86.05	51	89	<b>100</b>	67	96
Colby	217.59	511	13	<b>100</b>	88	11
Dehghani	85.24	15	50	<b>100</b>	29	50
Donovan	105.26	68	150	<b>100</b>	79	154
Eslami	88.46	62	50	<b>100</b>	57	50
Papoulidis	76.19	79	85	<b>100</b>	79	85
Sadeghpour	99.71	31	113	<b>100</b>	32	177
Sarzaeem	83.67	47	85	<b>100</b>	53	85

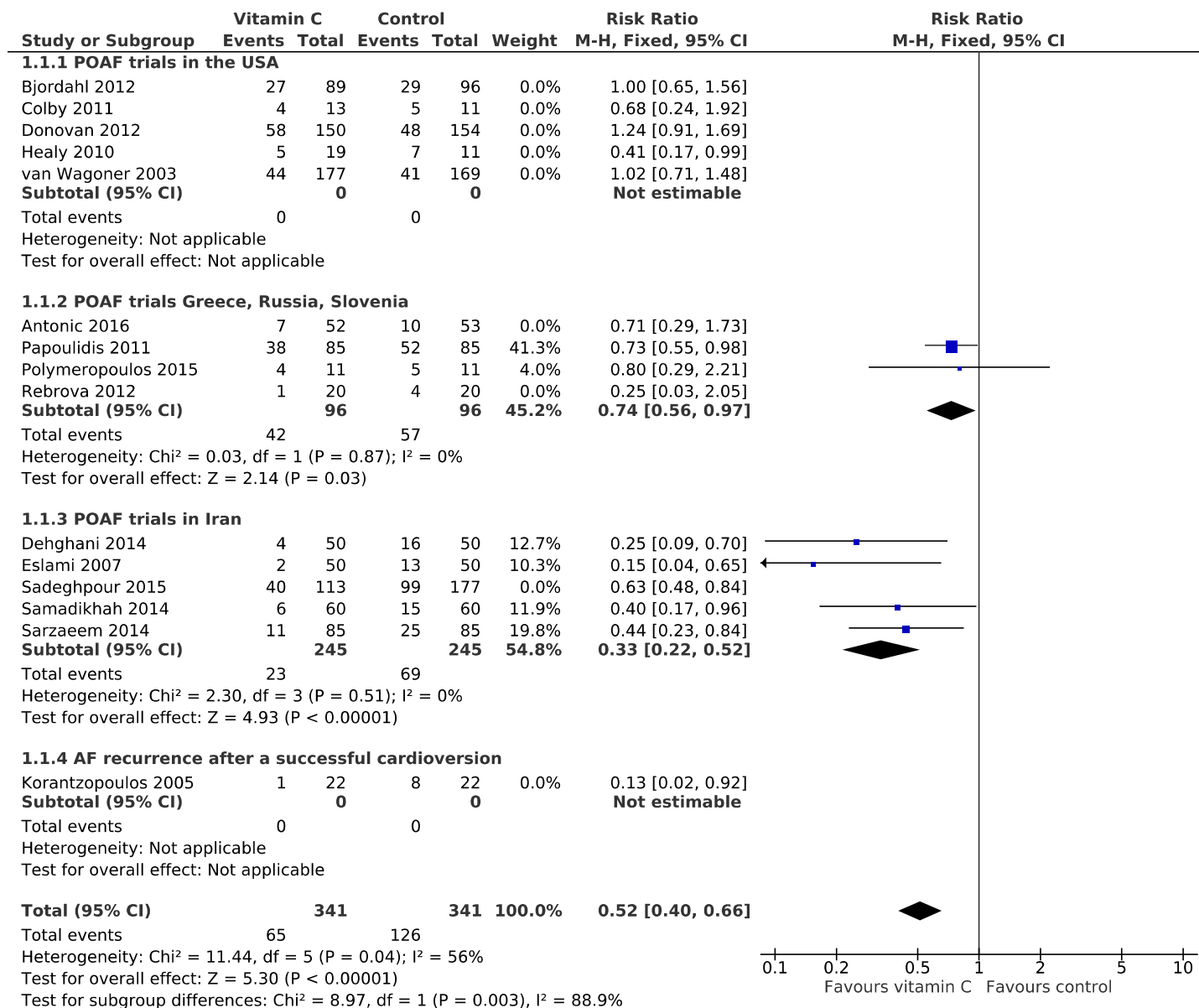
## AF in the 10 non-US trials

If the 5 US trials are removed, the remaining 10 non-US trials are not heterogeneous,  $I^2 = 38\%$  ( $P = 0.10$ ), and the pooled estimate indicates a **45% decrease (95% CI 35% to 54%;  $Z = 6.60$ ,  $P = 10^{-10}$ )** in the occurrence of AF.



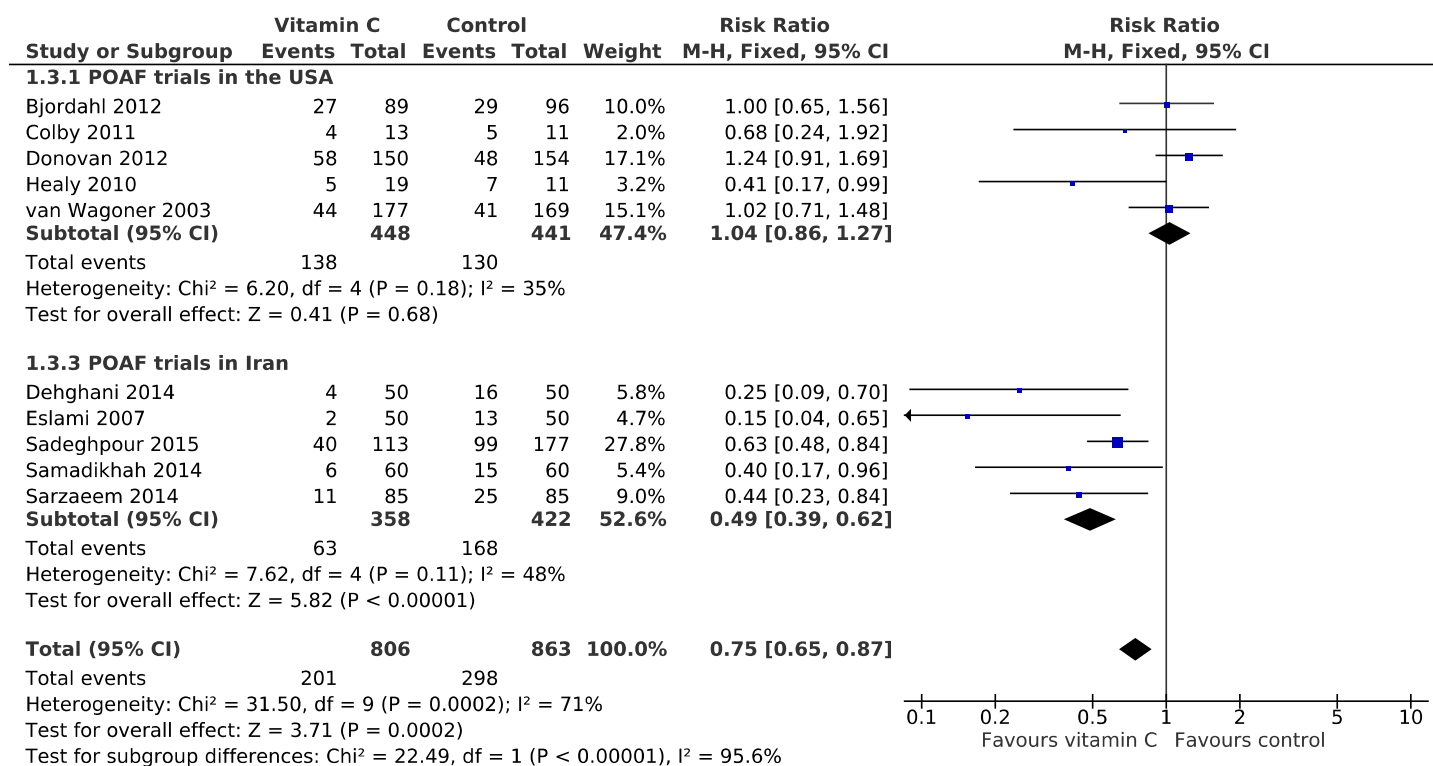
## Exclusion of 4 trials with some concerns about randomization and blinding

If we further remove 4 non-US trials that had some concerns about randomization or blinding [23,24,31,32], the effect estimate is essentially the same leading to **48% decrease (95% CI 34% to 60%; Z = 5.30, P = 10<sup>-7</sup>)** in the incidence of AF.



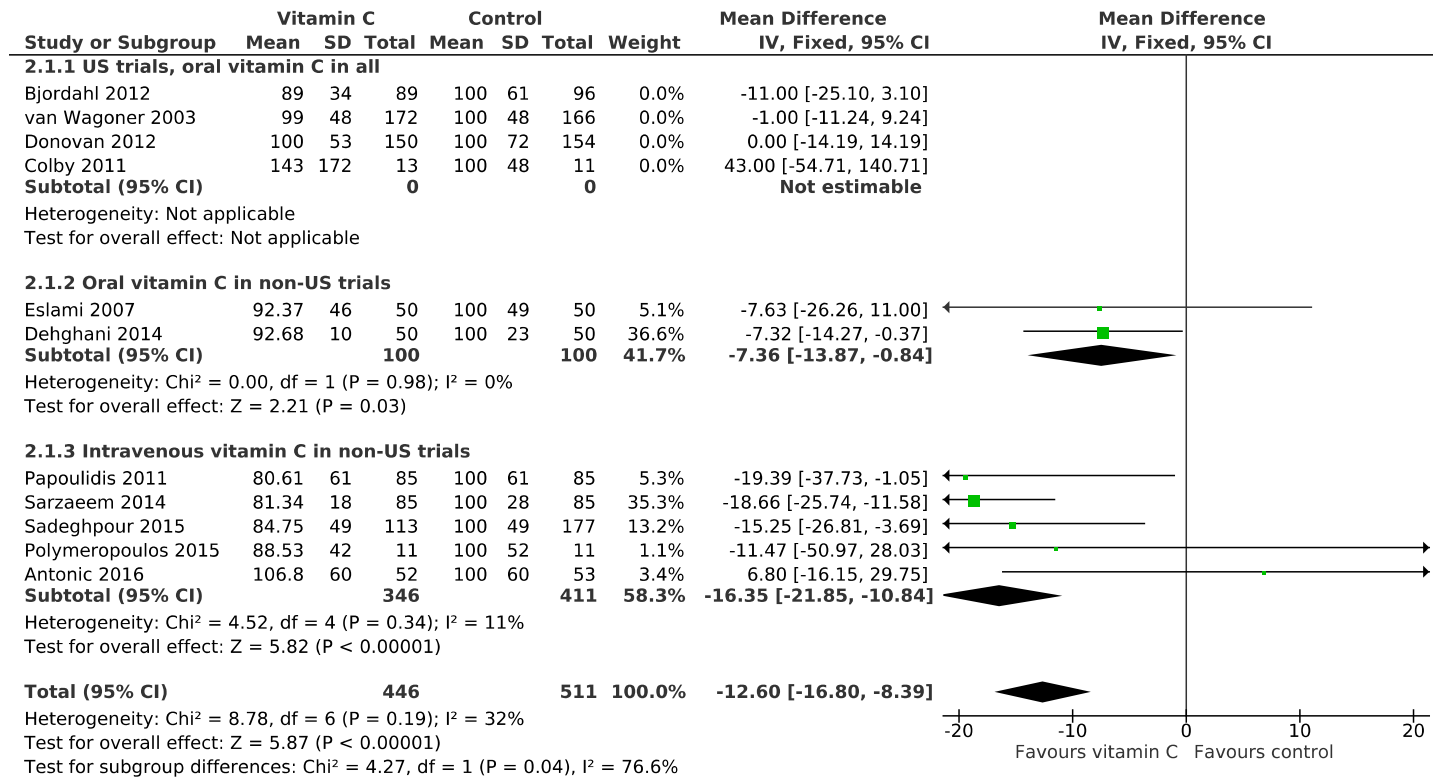
# Comparison of the 5 US and 5 Iran POAF trials

In a direct comparison of the 5 US POAF trials against the 5 Iran POAF trials, there is very strong evidence of heterogeneity with  $I^2 = 95\%$ ;  $P = 10^{-5}$  in heterogeneity test.



# Hospital stay in the non-US trials

In the non-US cardiac surgery trials, vitamin C decreased the length of hospital stay by 12.6% (95% CI 8.4% to 16.8%; Z = 5.87, P = 10<sup>-8</sup>).



## Exclusion of 1 trial with some concerns about blinding

Only 1 of the non-US trials had some concerns about blinding [23], and its exclusion had only a small effect on the pooled effect estimate leading to **13.3% decrease (12.1% to 23.4%);**

**Z = 6.08, P = 10<sup>-9</sup>** decrease in the length of hospital stay.

