Fact sheet:

Do brief interventions for risky drinking and treatments for alcohol use disorders work?



Effectiveness of brief interventions in primary health care settings

The effectiveness of brief interventions for risky drinking in primary health care settings was analysed, comparing the results from studies undertaken in Europe with those undertaken in the rest of the world. Figure 1 summarizes the results, and finds that brief interventions work, and they work just as well in European studies as they do in studies from the rest of the world. In European studies, brief interventions lead to about 20 grams less alcohol (two drinks) being drunk per week compared to groups that did not received the brief intervention 12 months after the intervention. This is a large difference.

Figure 1. Forest plot taken from primary care meta-analysis. Estimated standardised mean difference (with standard deviation) of final quantity value for alcohol consumption in grams per week at 12 months follow-up between brief intervention and control groups in included trials for the Europe region and the rest of the world.

	Brief	Intervent	vention		Control		Std. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% C	IV, Random, 95% CI
1.2.1 Europe									
Aalto et al., 2000	278.3	280.69	82	262.79	299.4	73	5.7%	0.05 [-0.26, 0.37]	· · · · · · · · · · · · · · · · · · ·
Beich et al., 2007	168	152.4	224	168	156	288	8.7%	0.00 [-0.17, 0.17]	· −+−
Cordoba et al., 1998	202.4	183.27	104	295.2	215.22	125	6.7%	-0.46 [-0.72, -0.20]	
Huas et al., 2002	-109	164.73	270	-92	190.35	149	8.1%	-0.10 [-0.30, 0.10]	
Kaner et al., 2013	134.4	121.15	208	140	70.2	194	8.2%	-0.06 [-0.25, 0.14]	
Lock et al., 2006	128.64	293.28	36	156.8	293.28	42	3.8%	-0.10 [-0.54, 0.35]	
Rubio et al., 2010	245.76	116.48	371	284.67	116.61	381	9.4%	-0.33 [-0.48, -0.19]	
Wallace et al., 1988	304.34	184.94	363	386.15	230.97	385	9.4%	-0.39 [-0.53, -0.24]	
Subtotal (95% CI)			1658			1637	60.2%	-0.19 [-0.32, -0.05]	\bullet
Heterogeneity: Tau ² = 0.03	; Chi² = 2	4.23, df =	= 7 (P =	0.001); l [;]	² = 71%				
Test for overall effect: Z = 2	2.67 (P =	0.008)							
1.2.2 Rest of the World									
Fleming et al., 1997	137.76	135.72	353	185.52	155.16	370	9.4%	-0.33 [-0.47, -0.18]	
Fleming et al., 1999	119.04	83.64	78	195.24	146.04	67	5.4%	-0.65 [-0.98, -0.31]	
Fleming et al., 2004	57.64	106.39	81	65.99	74.34	70	5.6%	-0.09 [-0.41, 0.23]	
Maisto et al., 2001	133.98	147.52	74	147.33	147.72	85	5.8%	-0.09 [-0.40, 0.22]	
Reiff-Hekking et al, 2005	161.28	190.72	235	170.24	167.68	210	8.5%	-0.05 [-0.24, 0.14]	_ _
Richmond et al., 1995	326	211	70	290	208	61	5.2%	0.17 [-0.17, 0.51]	
Subtotal (95% CI)			891			863	39.8%	-0.18 [-0.37, 0.02]	\bullet
Heterogeneity: Tau ² = 0.04	; Chi² = 1	7.69, df =	= 5 (P =	0.003); l [;]	² = 72%				
Test for overall effect: Z = 1	1.78 (P =	0.08)							
Total (95% CI)			2549			2500	100.0%	-0.18 [-0.29, -0.08]	
Heterogeneity: $Tau^2 = 0.03$	• Chi² = 4	1 97 df =	= 13 (P •	- 0 0001	$1^2 = 69^{\circ}$	%			
Test for overall effect: $7 = 3$	3 36 (P =	0.0008)	10 (1	- 5.0001	,. = 55,				-1 -0.5 0 0.5 1
Test for subgroup difference		= 0 01 df	- 1 (P -	- 0 94) 1	$^{2} = 0\%$				Favours experimental Favours control

Effectiveness of brief interventions in emergency departments

The effectiveness of brief interventions for risky drinking in emergency departments was analysed, comparing the results from studies undertaken in Europe with those undertaken in the rest of the world. Figure 2 summarizes the results, and finds that brief interventions work, and they work just as well in European studies as they do in studies from the rest of the world. In European studies, brief interventions lead to 9 grams less alcohol (one drink) being drunk per week compared to groups that did not received the brief intervention 12 months after the intervention. This is a large difference.

Figure 2. Forest plot taken from emergency department meta-analysis. Estimated standardised mean difference (with standard deviation) of final quantity value for alcohol consumption in grams per week at 12 months follow-up between brief intervention and control groups in included trials for the Europe region and the rest of the world.

	Brief I	ntervent	ention Control				;	Std. Mean Difference	Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% C	I IV, Random, 95% CI
1.2.1 Europe									
Cherpitel 2010	401.8	785.8	97	411.6	795.3	40	3.8%	-0.01 [-0.38, 0.36]	
Crawford 2004	457.6	547.2	189	566.4	710.4	195	12.8%	-0.17 [-0.37, 0.03]	
Daeppen 2007	134	128	236	133	147	257	16.5%	0.01 [-0.17, 0.18]	_
Drummond (Under Review) Subtotal (95% CI)	106.4	105.62	294 816	123.2	118.06	263 755	18.6% 51.7%	-0.15 [-0.32, 0.02] - 0.09 [-0.19, 0.00]	•
Heterogeneity: Tau ² = 0.00; Ch	$ni^2 = 2.45$	df = 3 (P	= 0.48)	; l ² = 0%					
Test for overall effect: Z = 1.86	(P = 0.0	6)							
1.2.2 Rest of the World									
Blow 2006	143.55	100.37	129	158.73	196.07	120	8.3%	-0.10 [-0.35, 0.15]	
D'Onofrio 2008	114.38	166.89	229	114.38	127.21	227	15.3%	0.00 [-0.18, 0.18]	_
D'Onofrio 2012	166.89	167.47	254	205.4	206.57	122	11.0%	-0.21 [-0.43, 0.00]	
Gentilello 1999	-254.43	601.47	194	-78.2	992.56	215	13.6%	-0.21 [-0.41, -0.02]	
Subtotal (95% CI)			806			684	48.3%	-0.13 [-0.23, -0.02]	-
Heterogeneity: Tau ² = 0.00; Ch	$hi^2 = 3.22$, df = 3 (P	= 0.36)	; l² = 7%					
Test for overall effect: Z = 2.30	(P = 0.02)	2)							
Total (95% CI)			1622			1439	100.0%	-0.11 [-0.18, -0.04]	•
Heterogeneity: Tau ² = 0.00; Chi ² = 5.84, df = 7 (P = 0.56); l ² = 0%									
Test for overall effect: Z = 2.99	(P = 0.0	03)							-0.5 -0.25 0 0.25 0.5
Test for subgroup differences:	Chi ² = 0.	17, df = 1	(P = 0.6	68), I² = ()%				ravours experimental Favours control

Effectiveness of the pharmacological treatment, acamprosate, in treating alcohol use disorders

The effectiveness of the pharmacological treatment, acamprosate, in treating alcohol use disorders was analysed, comparing the results from studies undertaken in Europe with those undertaken in the rest of the world. Figure 3 summarizes the results, and finds that acamprosate works, and it works just as well in European studies as it does in studies from the rest of the world. In European studies, acamprosate resulted in a nearly 20% less chance of

returning to drinking after stopping, six months after starting the treatment. This is a large difference.

Figure 3. Forest plot for the comparison of treatment with acamprosate and placebo for the outcome Lapsed (individuals returning to any drinking at 6 month follow-up), Europe versus the Rest of the World.

	Experimental		Control		Risk Ratio		Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% Cl	M-H, Random, 95% Cl
1.2.1 Europe							
Barrias 1997	83	150	105	152	6.0%	0.80 [0.67, 0.96]	
Besson 1998	36	55	51	55	5.3%	0.71 [0.57, 0.87]	
Chick 2000	254	289	260	292	9.8%	0.99 [0.93, 1.05]	+
Geerlings 1997	96	128	121	134	8.1%	0.83 [0.74, 0.93]	
Gual 2001	95	147	103	141	6.7%	0.88 [0.76, 1.03]	
Kiefer 2003	24	40	30	40	3.2%	0.80 [0.59, 1.09]	
Ladewig 1993	19	29	29	32	3.6%	0.72 [0.54, 0.96]	
Paille 1995	118	173	144	177	7.8%	0.84 [0.74, 0.95]	
Pelc 1992	40	55	44	47	6.0%	0.78 [0.65, 0.93]	_ -
Pelc 1997	70	126	49	62	5.4%	0.70 [0.57, 0.86]	
Poldrugo 1997	65	122	92	124	5.5%	0.72 [0.59, 0.87]	
Roussaux 1996	45	63	43	64	4.7%	1.06 [0.84, 1.34]	
Sass 1996	78	136	100	136	6.1%	0.78 [0.65, 0.93]	_ .
Tempesta 2000	85	164	108	166	5.8%	0.80 [0.66, 0.96]	
Whitworth 1996	161	224	179	224	8.4%	0.90 [0.81, 1.00]	
Subtotal (95% CI)		1901		1846	92.3%	0.83 [0.77, 0.89]	•
Total events	1269		1458				
Heterogeneity: Tau ² = 0	0.01; Chi² =	= 43.94,	df = 14 (l	> < 0.00	001); l² = 68	3%	
Test for overall effect: 2	Z = 5.27 (P	< 0.000	01)				
1.2.2 Rest of the Worl	d						
Baltieri 2003	23	40	28	35	3.2%	0.72 [0.53, 0.98]	
Namkoong 2003	45	72	48	70	4.5%	0.91 [0.72, 1.16]	
Subtotal (95% CI)		112		105	7.7%	0.83 [0.66, 1.04]	\bullet
Total events	68		76				
Heterogeneity: Tau ² = 0	0.01; Chi² =	= 1.39, c	lf = 1 (P =	: 0.24);	l² = 28%		
Test for overall effect: 2	Z = 1.62 (P	= 0.11)					
Total (95% CI)		2013		1951	100.0%	0.83 [0.77, 0.88]	◆
Total events	1337		1534				
Heterogeneity: Tau ² = (0.01; Chi² =	= 45.48,	df = 16 (l	- = 0.00	001); l ² = 65	5%	
Test for overall effect: 2	Z = 5.58 (P	< 0.000)01)			Fr	U.5 U.7 1 1.5 2
Test for subgroup difference	rences: Ch	i ² = 0.00	, df = 1 (I	Γc			

Effectiveness of the pharmacological treatment, naltrexone, in treating alcohol use disorders

The effectiveness of the pharmacological treatment, naltrexone, in treating alcohol use disorders was analysed, comparing the results from studies undertaken in Europe with those undertaken in the rest of the world. Figure 4 summarizes the results. In the European studies, it could not be conclusively demonstrated that naltrexone worked, but the results of the European studies did not differ significantly from the results of the studies from the rest of the world. Thus, it is fair to conclude that naltrexone seems to work just as well in European studies as it does in studies from the rest of the world. In all studies naltrexone resulted in an 18% less chance of relapsing to heavy drinking three months after starting the treatment. This is a large difference.

Figure 4. Forest plot for the comparison of treatment with Naltrexone and placebo for the outcome Relapse to heavy drinking (3 month follow-up), Europe versus the Rest of the World.

	Experim	ental	Contr	ol		Risk Ratio	Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% Cl	M-H, Random, 95% Cl
2.4.1 Europe							
Balldin, 2003	53	56	58	62	8.2%	1.01 [0.92, 1.11]	+ t
Chick 2000b	64	90	61	85	6.4%	0.99 [0.82, 1.20]	+
Gastpar 2002	34	84	36	87	3.7%	0.98 [0.68, 1.40]	+
Guardia 2002	8	93	19	99	1.2%	0.45 [0.21, 0.97]	
Heinla 2001 (C.Skill)	25	34	32	33	6.0%	0.76 [0.61, 0.94]	-
Heinla 2001 (sup. beh)	27	29	22	25	6.7%	1.06 [0.89, 1.26]	+
Kiefer 2003	14	40	30	40	2.7%	0.47 [0.29, 0.74]	
Mann2012	86	169	41	85	5.0%	1.05 [0.81, 1.38]	
Subtotal (95% CI)		595		516	39.8%	0.90 [0.77, 1.05]	•
Total events	311		299				
Heterogeneity: Tau ² = 0.0	03; Chi ² = 2	25.42, df	= 7 (P =	0.0006); l² = 72%		
Test for overall effect: Z	= 1.39 (P =	0.17)					
2.4.2 Rest of the World							
Anton 1999	26	68	38	63	3.6%	0.63 [0.44, 0.91]	- - -
Anton 2005 (C.Skills)	15	39	25	41	2.6%	0.63 [0.40, 1.01]	
Anton 2005 (MET)	18	41	22	39	2.8%	0.78 [0.50, 1.21]	+
Anton 2006 (CBI)	103	155	111	156	7.2%	0.93 [0.80, 1.09]	+
Anton 2006 (No CBI)	104	154	115	153	7.3%	0.90 [0.78, 1.04]	-
Huang 2005	4	20	3	20	0.4%	1.33 [0.34, 5.21]	—— — ——
Killeen 2004	21	51	12	36	1.9%	1.24 [0.70, 2.18]	- -
Kranzler 2000	29	61	31	63	3.6%	0.97 [0.67, 1.39]	
Krvstal 2001	143	378	83	187	6.1%	0.85 [0.69, 1.05]	
Latt 2002	19	56	27	51	2.8%	0.64 [0.41, 1.00]	
Lee 2001	8	24	8	15	1.3%	0.63 [0.30, 1.31]	—
Monti 2001	18	64	21	64	2.2%	0.86 [0.51, 1.45]	
Morley 2006	39	53	43	61	5.6%	1.04 [0.83, 1.31]	+
Morris 2001	19	38	26	33	3.6%	0.63 [0.44, 0.91]	
O'Malley 2008	22	34	28	34	4.6%	0.79 0.59, 1.05	
Oslin 1997	3	21	8	23	0.5%	0.41 [0.13, 1.35]	
Volpicelli 1992	8	35	19	35	1.4%	0.42 [0.21, 0.83]	
Volpicelli 1997	17	48	26	49	2.6%	0.67 [0.42, 1.06]	
Subtotal (95% CI)		1340		1123	60.2%	0.82 [0.75, 0.91]	♦
Total events	616		646				
Heterogeneity: Tau ² = 0.0	01; Chi ² = 2	24.20, df	= 17 (P =	= 0.11);	l ² = 30%		
Test for overall effect: Z	= 3.94 (P <	0.0001)	``	,,			
Total (95% CI)		1935		1639	100.0%	0.84 [0.77, 0.92]	•
Total events	927		945				
Heterogeneity: $Tau^2 = 0$	02: Chi ² = 5	59.15. df	= 25 (P =	= 0.000	1): l ² = 589	% ⊢	
Test for overall effect: 7	= 3 70 (P =	0 00021		5.000	.,,. 50,	_ 0	.01 0.1 1 10 100
	- 0.70 (1 -	0.0002)		0.00	12 00/	Fav	ours [experimental] Favours [control]

Test for overall effect: Z = 3.70 (P = 0.0002) Test for subgroup differences: Chi² = 0.83, df = 1 (P = 0.36), l² = 0%

Take home messages

- 1. Brief interventions for risky drinking delivered in primary care settings work, and work just as well when they are studied in Europe as when they are studied in the rest of the world. Throughout the world, they lead to about 18 grams less alcohol (just under two drinks) being drunk per week compared to groups that did not receive the brief intervention 12 months after the intervention. This is a large difference.
- 2. Brief interventions for risky drinking delivered in emergency care settings work, and work just as well when they are studied in Europe as when they are studied in the rest of the world. Throughout the world, they lead to about 11 grams less alcohol (just over one drink) being drunk per week compared to groups that did not receive the brief intervention 12 months after the intervention. This is a large difference.
- 3. The pharmacological treatment, acamprosate works for treating alcohol use disorders and works just as well when it is studied in Europe as when it is studied in the rest of the world. Throughout the world it leads to a nearly 20% less chance of returning to drinking after stopping, six months after starting the treatment. This is a large difference.
- 4. The pharmacological treatment, naltrexone works for treating alcohol use disorders and works just as well when it is studied in Europe as when it is studied in the rest of the world. Throughout the world it leads to an 18% less chance of relapsing to heavy drinking three months after starting the treatment. This is a large difference.

This fact sheet was based information in the <u>AMPHORA ebook</u> produced as part of the AMPHORA project (<u>www.amphoraproject.net</u>), funded by the European Commission under the 7th Framework Programme for research. Grant Agreement No. 223059



