# E.1 Adherence for CPAP

## E.1.1 Behavioural therapy + CPAP versus control + CPAP –severe OSAHS

Figure 2: CPAP Device Usage (hours/night) (higher is better)

	Behavi	oural+C	PAP	contr	rol+CP	AP		Mean Difference	Mean Difference
Study or Subgroup	Mean	\$D	Total	Mean	SD	Total	Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI
Aloia 2001	7.76	1.86	6	4.65	3.38	6	1.3%	3.11 [0.02, 6.20]	
Aloia 2013	4.34	2.35	62	3.65	2.36	55	17.1%	0.69 [-0.17, 1.55]	<b>⊢</b> •−-
Bakker 2016	4.4	2.9	41	3.3	2.7	42	8.6%	1.10 [-0.11, 2.31]	
Dantas 2015	6.2	1.3	20	5.1	1.4	20	17.8%	1.10 [0.26, 1.94]	
Diaferia 2017	5.1	2.3	22	3.6	1.8	27	9.0%	1.50 [0.32, 2.68]	
Lai 2014	4.4	1.8	49	2.4	2.3	51	19.2%	2.00 [1.19, 2.81]	
Olsen 2012	4.63	2.69	50	3.16	2.69	50	11.2%	1.47 [0.42, 2.52]	
Sparrow 2010	2.4	2.5	110	1.48	2.5	112		Not estimable	
Wang 2012	3.7	2.3	38	2.6	1.6	38	15.8%	1.10 [0.21, 1.99]	
Total (95% CI)			288			289	100.0%	1.31 [0.95, 1.66]	◆
Heterogeneity: Chi <sup>2</sup> =	6.89, df=	7 (P = 0	.44); I <sup>z</sup> =	:0%				-	
Test for overall effect:			· ·						-4 -2 U 2 4 Favours control+CPAP Favours behavioural+CPAP

#### Figure 3: N deemed adherent (≥ four hours/night)

	behavioural	+CPAP	Control+	CPAP		Risk Ratio	Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Fixed, 95% Cl	M-H, Fixed, 95% Cl
Aloia 2001	5	6	4	6	3.9%	1.25 [0.64, 2.44]	<b>-</b>
Diaferia 2017	11	22	8	27	7.0%	1.69 [0.82, 3.45]	+
Lai 2014	20	49	10	51	9.5%	2.08 [1.09, 3.99]	_ <b></b>
Smith 2009	30	55	24	42	26.4%	0.95 [0.67, 1.36]	
Sparrow 2010	46	104	38	111	35.7%	1.29 [0.92, 1.81]	
Wang 2012	26	38	18	38	17.5%	1.44 [0.97, 2.15]	
Total (95% CI)		274		275	100.0%	1.33 [1.10, 1.61]	◆
Total events	138		102				
Heterogeneity: Chi <sup>2</sup> =	5.81, df = 5 (P	= 0.32);	I² = 14%				
Test for overall effect	Z = 2.97 (P = 0	0.003)					Favours Control+CPAP Favours behavioural+CPAP

#### Figure 4: Withdrawal

	behavioural	+CPAP	Control+	CPAP		Risk Ratio	Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Fixed, 95% CI	M-H, Fixed, 95% Cl
Aloia 2001	0	6	0	6		Not estimable	
Aloia 2013	11	73	19	74	27.0%	0.59 [0.30, 1.15]	
Bakker 2016	3	41	2	42	2.8%	1.54 [0.27, 8.73]	
Dantas 2015	0	20	1	20	2.1%	0.33 [0.01, 7.72]	
Lai 2014	1	49	1	51	1.4%	1.04 [0.07, 16.18]	
Olsen 2012	5	53	7	53	10.0%	0.71 [0.24, 2.11]	
Scala 2012	0	13	0	15		Not estimable	
Smith 2009	11	55	13	42	21.1%	0.65 [0.32, 1.30]	
Sparrow 2010	14	124	14	126	19.9%	1.02 [0.51, 2.04]	<b>+</b>
Wang 2012	5	38	11	38	15.7%	0.45 [0.17, 1.18]	
Total (95% CI)		472		467	100.0%	0.70 [0.51, 0.98]	◆
Total events	50		68				
Heterogeneity: Chi <sup>2</sup> =	= 3.28, df = 7 (P	= 0.86);	I² = 0%				
Test for overall effect	: Z = 2.07 (P = 0	0.04)					0.01 0.1 1 10 100 Favours behavioural+CPAP Favours Control+CPAP

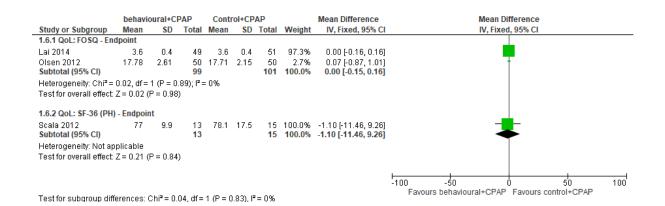
#### behavioural+CPAP Control+CPAP Mean Difference Mean Difference Study or Subaroup SD Total Weight IV. Random, 95% CI IV. Random, 95% CI Mean SD Total Mean Scala 2012 5.3 4.5 13 12.5 46 15 11 1% -7 20 [-10 58 -3 82] Dantas 2015 3.7 4.1 20 7.1 20 16.4% -3.40 [-5.68, -1.12] 3.2 Lai 2017 7.3 4.8 49 8.9 4.7 51 18.9% -1.60 [-3.46, 0.26] Olsen 2012 6 3.16 48 7.47 3.83 46 21.7% -1.47 [-2.89, -0.05] Wang 2012 9.4 3.7 33 10.8 4.2 27 17.9% -1.40 [-3.43, 0.63] Diaferia 2017 7.3 5.7 22 7.2 3.6 27 13.9% 0.10 [-2.64, 2.84] Total (95% CI) 185 186 100.0% -2.22 [-3.68, -0.75] Heterogeneity: Tau<sup>2</sup> = 2.04; Chi<sup>2</sup> = 13.84, df = 5 (P = 0.02); l<sup>2</sup> = 64% Ó Test for overall effect: Z = 2.97 (P = 0.003) Favours behavioural+CPAP Favours control+CPAP

#### Figure 5: Epworth Sleepiness Scale (Endpoint scores) (0-24; higher is worse)

#### Figure 6: AHI on treatment – Endpoint (lower is better)

	behavio	ural+Cl	PAP	Contr	ol+CP	AP		Mean Difference	Mean Difference		
Study or Subgroup	Mean	SD	Total	Mean	<b>SD</b>	Total	Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI		
Dantas 2015	2.7	2.7	20	3.7	3.1	20	52.2%	-1.00 [-2.80, 0.80]			
Diaferia 2017	3.4	2.7	22	4.3	4	27	47.8%	-0.90 [-2.78, 0.98]	•		
Total (95% CI)			42			47	100.0%	-0.95 [-2.25, 0.35]	•		
Heterogeneity: Chi <sup>z</sup> = Test for overall effect				= 0%					-100 -50 0 Favours behavioural+CPAP Favours c	50 ontrol+CPAP	100

# Figure 7: Quality of Life - Comparison of Values at Endpoint (FOSQ 5-20, higher is better) (SF- 36, 0-100, higher is better)



#### E.1.2 Educational interventions + CPAP versus usual care + CPAP- severe OSAHS

#### Figure 8: CPAP Device Usage (hours/night) (higher is better)

	Educational+CPA Mean SD T			usual	care+C	PAP		Mean Difference	Mean Difference
Study or Subgroup	Mean	<b>SD</b>	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Aloia 2013	4.48	2.5	66	3.65	2.36	55	11.0%	0.83 [-0.04, 1.70]	
Basoglu 2011	5.5	1.2	66	5.1	1.6	67	14.7%	0.40 [-0.08, 0.88]	
Chervin 1997	7.1	1.8	14	4.4	3.4	7	2.7%	2.70 [0.01, 5.39]	
Falcone 2014	5.25	2.5	90	4.12	2.5	71	11.9%	1.13 [0.35, 1.91]	
Hwang 2017	4	2.4	163	3.8	2.5	129	13.9%	0.20 [-0.37, 0.77]	
Pengo 2018	3.065	2.4919	60	3.1	2.7	25	8.1%	-0.04 [-1.27, 1.20]	
Richards 2007	5.38	2.55	48	2.51	2.7	48	9.5%	2.87 [1.82, 3.92]	
Roecklein 2010	2.35	2.23	13	1.97	2.24	15	5.7%	0.38 [-1.28, 2.04]	
Sarac 2017	5.2	2.1	52	4.2	2.5	63	11.3%	1.00 [0.16, 1.84]	
Wang 2012	3.4	2.1	38	2.6	1.6	38	11.3%	0.80 [-0.04, 1.64]	
Total (95% CI)			610			518	100.0%	0.88 [0.40, 1.36]	◆
Heterogeneity: Tau <sup>2</sup> =	0.35; CI	ni² = 26.30	), df = 9 i	(P = 0.00	)2); l² = 6	66%		-	
Test for overall effect:	Fest for overall effect: Z = 3.58 (P = 0.0003)								-4 -2 U 2 4 Favours usual care+CPAP Favours educational+CPAP
									Favours usual cale+CFAF Favours educational+CPAP

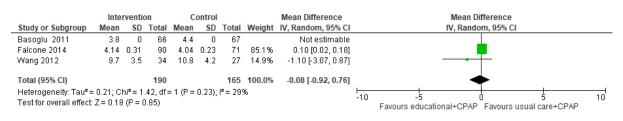
#### Figure 9: N deemed adherent (≥ four hours/night)

	Educational+CPA		usual care+	CPAP		Risk Ratio	Risk	Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Rando	om, 95% Cl
Basoglu 2011	47	66	38	67	14.0%	1.26 [0.97, 1.63]		<b>-</b>
Falcone 2014	87	90	50	71	22.7%	1.37 [1.17, 1.60]		+
Hwang 2017	100	163	69	129	18.3%	1.15 [0.94, 1.40]	-	-
Richards 2007	37	48	15	48	6.4%	2.47 [1.58, 3.86]		_ <b></b>
Sarac 2017	45	52	43	63	18.5%	1.27 [1.04, 1.55]		
Soares-Pires 2013	45	71	41	75	13.2%	1.16 [0.88, 1.52]	-	<b>-</b>
Wang 2012	23	38	18	38	7.0%	1.28 [0.84, 1.95]	-	
Total (95% CI)		528		491	100.0%	1.31 [1.15, 1.48]		•
Total events	384		274					
Heterogeneity: Tau <sup>2</sup> :	= 0.01; Chi <sup>2</sup> = 1	0.66, df=	6 (P = 0.10);	I <sup>2</sup> = 44%				10 100
Test for overall effect	:Z=4.18 (P < 0	0.0001)				0.0		i 10 100 Favours educational+CPAP

## Figure 10: Withdrawals

	Educational+	CPAP	usual care+	CPAP		Risk Ratio	Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% Cl
Aloia 2013	14	80	19	74	17.3%	0.68 [0.37, 1.26]	
Basoglu 2011	0	66	0	67		Not estimable	
Falcone 2014	13	103	32	103	18.3%	0.41 [0.23, 0.73]	
Hwang 2017	51	375	53	354	27.9%	0.91 [0.64, 1.30]	<b>_</b> _
Richards 2007	2	50	2	50	2.9%	1.00 [0.15, 6.82]	
Roecklein 2010	1	14	1	16	1.5%	1.14 [0.08, 16.63]	
Sarac 2017	0	52	0	63		Not estimable	
Soares-Pires 2013	29	100	27	102	23.8%	1.10 [0.70, 1.71]	<b>_</b>
Wang 2012	4	38	11	38	8.2%	0.36 [0.13, 1.04]	
Total (95% CI)		878		867	100.0%	0.73 [0.52, 1.02]	◆
Total events	114		145				
Heterogeneity: Tau² =	: 0.07; Chi <sup>2</sup> = 10	0.12, df=	6 (P = 0.12);	I <sup>2</sup> = 41%			
Test for overall effect:	Z = 1.84 (P = 0	.07)					Favours educational+CPAP Favours usual care+CPAP

#### Figure 11: ESS – comparison of values at end point (0 to 24, higher is worse)



# E.1.3 Increased practical support and encouragement during follow-up + CPAP versus usual care + CPAP- severe OSAHS

#### Figure 12: CPAP Device Usage (hours/night) (higher is better)

		d support+			I care+CF			Mean Difference	Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% Cl
Chervin 1997	5.7	2.3	12	4.4	3.4	7	1.6%	1.30 [-1.54, 4.14]	
DeMolles 2004	4.4	3	15	2.9	2.4	15	3.1%	1.50 [-0.44, 3.44]	
ox 2012	3.18	2.45	28	1.75	1.97	26	6.2%	1.43 [0.25, 2.61]	
Hoet 2017	5.7	1.6	20	4.2	1.9	17	6.4%	1.50 [0.36, 2.64]	
Hoy 1999	5.4	1.8974	40	3.8	2.5298	40	7.5%	1.60 [0.62, 2.58]	
Hwang 2017	4.4	2.2	125	3.8	2.5	129	11.0%	0.60 [0.02, 1.18]	
lendelson 2014	3.12	2.97	54	4.17	2.77	53	6.8%	-1.05 [-2.14, 0.04]	
lunafo 2016	5.1	1.9	58	4.7	2.1	64	9.8%	0.40 [-0.31, 1.11]	
lilius 2019	4.4	2.5	37	2.1	2.2	38	6.9%	2.30 [1.23, 3.37]	
arthasarathy 2012	4.35	2.6	22	3.4	2.6	15	3.8%	0.95 [-0.76, 2.66]	
epin 2019	5.28	2.23	157	4.75	2.5	149	11.5%	0.53 [-0.00, 1.06]	
Stepnowsky 2007	4.1	1.8	20	2.8	2.2	20	5.8%	1.30 [0.05, 2.55]	
Stepnowsky 2013	3.9	2.3	126	3.2	2.4	114	10.9%	0.70 [0.10, 1.30]	
Turino 2017	5.1	2.1	52	4.9	2.2	48	8.6%	0.20 [-0.64, 1.04]	
otal (95% CI)			766			735	100.0%	0.83 [0.45, 1.22]	•
eterogeneity: Tau <sup>2</sup> =	0.26: Chi <sup>2</sup> =	29.44. df =	13(P = 0)	).006): P	'= 56%				
est for overall effect:									-2 -1 0 1 2 Favours usual care+CPAP Favours increased support+CPAP

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#### Figure 13: Days PAP used >4 h at 12 months

	Increased s	upport+C	PAP	usual c	are+CPAP Mean Difference					Mean Difference				
Study or Subgroup	Mean	SD	Total	Mean	<b>SD</b>	Total	Weight	IV, Fixed, 95% CI		IV, Fixe	d, 95% Cl			
Kotzian 2019	271	99	12	282	55	11	100.0%	-11.00 [-75.76, 53.76]						
Total (95% CI) Heterogeneity: Not ap Test for overall effect: .		1.74)	12			11	100.0%	-11.00 [-75.76, 53.76]	-100	-50 Favours usual care+CPAF	0 Favours increas	50 ed support+CF	100 PAP	

### Figure 14: Days PAP used >4 h at 3 months

	increased	l support+	cpap	C	ontrol			Mean Difference	Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% CI	I IV, Fixed, 95% CI
Berry 2020	57.9	35.4	124	48.1	36.8	126	49.0%	9.80 [0.85, 18.75]	i] – – –
Hanger 2018	89.9	13.1	25	83.5	15.8	19	51.0%	6.40 [-2.37, 15.17]	j <b>+</b> ∎−
Total (95% CI)			149			145	100.0%	8.06 [1.80, 14.33]	g 🔶
Heterogeneity: Chi² = Test for overall effect:			I² = 0%						-100 -50 0 50 100 Favours control Favours increased support+cpar

#### Figure 15: Mean adherence all days (min per day)

	Increased s	upport+C	PAP	usual c	are+Cl	PAP		Mean Difference	Mean Difference					
Study or Subgroup	Mean	SD	Total	Mean	<b>SD</b>	Total	Weight	IV, Fixed, 95% CI		IV, Fix	IV, Fixed, 95% CI			
Kotzian 2019	352	97	12	307	62	11	100.0%	45.00 [-20.99, 110.99]						
Total (95% CI)			12			11	100.0%	45.00 [-20.99, 110.99]						
Heterogeneity: Not ap Test for overall effect:		.18)							-100	-50 Favours usual care+CPA	0 P Favours increa	50 sed support-	100 +CPAP	

#### Figure 16: CPAP use min/night

	Increased s	upport+C	PAP	usual	are+Cl	PAP		Mean Difference	Mean Difference						
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% CI			IV, Fixe	d, 95% (	CI		
Murase 2019	327	91	161	307	107	166	100.0%	20.00 [-1.51, 41.51]							
Total (95% CI)			161			166	100.0%	20.00 [-1.51, 41.51]							
Heterogeneity: Not ap Test for overall effect:		).07)							-100	-5 Favours	0 usual care+CPAP	0 Favou	50 Irs increased s	support+Cl	100 PAP

#### Figure 17: N deemed adherent (≥ four hours/night)

	Increased support	+CPAP	usual care	+CPAP		Risk Ratio	Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Fixed, 95% CI	M-H, Fixed, 95% Cl
Hwang 2017	82	125	69	129	60.3%	1.23 [1.00, 1.51]	
Munafo 2016	48	58	47	64	39.7%	1.13 [0.93, 1.36]	+
Total (95% CI)		183		193	100.0%	1.19 [1.03, 1.37]	◆
Total events	130		116				
Heterogeneity: Chi² = Test for overall effect	= 0.39, df = 1 (P = 0.53 : Z = 2.31 (P = 0.02)	l); I² = 0%					0.01 0.1 10 100 Favours usual care+CPAP Favours increased support+CPAP

	Increased suppor	t+CPAP	usual care-	+CPAP		Risk Ratio	Risk Ratio			
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Fixed, 95% CI	M-H, Fixed, 95% Cl			
DeMolles 2004	0	15	0	15		Not estimable				
Fox 2012	11	39	10	36	8.9%	1.02 [0.49, 2.10]				
Hoet 2017	6	23	3	23	2.6%	2.00 [0.57, 7.05]				
Hoy 1999	0	40	0	40		Not estimable				
Hwang 2017	58	380	53	354	47.0%	1.02 [0.72, 1.44]	+			
Mendelson 2014	14	54	11	53	9.5%	1.25 [0.62, 2.50]	<b>+</b>			
Munafo 2016	12	70	6	70	5.1%	2.00 [0.80, 5.03]	+			
Parthasarathy 2012	0	22	2	17	2.4%	0.16 [0.01, 3.06]	· · · · · · · · · · · · · · · · · · ·			
Pepin 2019	40	157	27	149	23.7%	1.41 [0.91, 2.17]	+			
Stepnowsky 2007	4	21	1	24	0.8%	4.57 [0.55, 37.77]				
Turino 2017	0	52	0	48		Not estimable				
Total (95% CI)		873		829	100.0%	1.22 [0.97, 1.52]	◆			
Total events	145		113							
Heterogeneity: Chi <sup>2</sup> =	6.74. df = 7 (P = 0.48	5); <b> </b> <sup>2</sup> = 0%								
Test for overall effect:							0.01 0.1 1 10 100			
							Favours increased support+CPAP Favours usual care+CPAP			

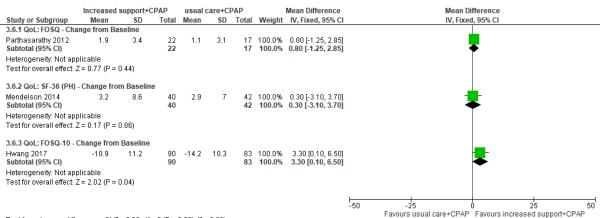
## Figure 19: ESS score – end point and change from baseline (0-24; higher is worse)

	Increased suppo udv or Subgroup Mean Si				Control			Mean Difference	Mean Difference		
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI		
3.4.1 ESS: Endpoint S	Scores										
Berry 2020	8.9	5.4	120	8.3	5.5	120	10.4%	0.60 [-0.78, 1.98]	- <b>+</b>		
DeMolles 2004	0	0	0	0	0	0		Not estimable			
Hanger 2018	4	2.7	25	6.5	4.1	19	4.4%	-2.50 [-4.63, -0.37]			
Hoy 1999	5.5	3.7947	40	6.3	5.0596	40	5.1%	-0.80 [-2.76, 1.16]	<b>+</b> _		
Mendelson 2014	6.4	4.4	40	5.1	3.3	42	6.9%	1.30 [-0.39, 2.99]	+		
Nilius 2019	3.7	3.2	36	6.1	4.1	37	7.0%	-2.40 [-4.08, -0.72]			
Parthasarathy 2012	7.1	4.7	22	8.1	4.3	17	2.5%	-1.00 [-3.83, 1.83]			
Pepin 2019	4.58	3.88	108	6.05	4.07	111	17.8%	-1.47 [-2.52, -0.42]			
Stepnowsky 2007	9.2	6.6	20	9.9	5.2	20	1.5%	-0.70 [-4.38, 2.98]			
Stepnowsky 2013 Subtotal (95% CI)	7.1	4.5	126 537	5.7	3.6	114 520	18.7% <b>74.3%</b>	1.40 [0.37, 2.43] -0.27 [-0.78, 0.25]	▲		
Heterogeneity: Chi² = Test for overall effect:			1); I² = 74	%							
	Z=1.02 (P=	0.31)	1); I² = 74	%							
Test for overall effect:	Z=1.02 (P=	0.31)	1); I² = 74 28	-0.7	5.2	26	2.6%	-0.90 [-3.65, 1.85]			
Test for overall effect: 3.4.2 ESS: Change fro	Z = 1.02 (P = om Baseline	= 0.31)			5.2 4.7	26 83	2.6% 9.1%	-0.90 [-3.65, 1.85] 0.00 [-1.48, 1.48]			
Test for overall effect: 3.4.2 ESS: Change fro Fox 2012	Z = 1.02 (P = om Baseline -1.6	= 0.31) 5.1	28	-0.7							
Test for overall effect: 3.4.2 ESS: Change fro Fox 2012 Hwang 2017	Z = 1.02 (P = om Baseline -1.6 -3.7	5.1 5.2	28 90	-0.7 -3.7	4.7	83	9.1%	0.00 [-1.48, 1.48]			
Test for overall effect: 3.4.2 ESS: Change fro Fox 2012 Hwang 2017 Mendelson 2014	Z = 1.02 (P = om Baseline -1.6 -3.7 -2.3	= 0.31) 5.1 5.2 4	28 90 40	-0.7 -3.7 -2.1	4.7 4.1	83 42	9.1% 6.4%	0.00 [-1.48, 1.48] -0.20 [-1.95, 1.55]			
Test for overall effect: 3.4.2 ESS: Change fro Fox 2012 Hwang 2017 Mendelson 2014 Munafo 2016 Parthasarathy 2012	Z = 1.02 (P = om Baseline -1.6 -3.7 -2.3 -5.8 -3.4	5.1 5.2 4 5.5 5	28 90 40 58 22 <b>238</b>	-0.7 -3.7 -2.1 -5.1	4.7 4.1 5.9	83 42 64 17	9.1% 6.4% 4.8% 2.8%	0.00 [-1.48, 1.48] -0.20 [-1.95, 1.55] -0.70 [-2.72, 1.32] -0.40 [-3.07, 2.27]			
Test for overall effect: 3.4.2 ESS: Change fro Fox 2012 Hwang 2017 Mendelson 2014 Munafo 2016 Parthasarathy 2012 Subtotal (95% CI)	Z = 1.02 (P = <b>om Baseline</b> -1.6 -3.7 -2.3 -5.8 -3.4 0.51, df = 4	5.1 5.2 4 5.5 5 (P = 0.97); 1	28 90 40 58 22 <b>238</b>	-0.7 -3.7 -2.1 -5.1	4.7 4.1 5.9	83 42 64 17	9.1% 6.4% 4.8% 2.8%	0.00 [-1.48, 1.48] -0.20 [-1.95, 1.55] -0.70 [-2.72, 1.32] -0.40 [-3.07, 2.27]			
Test for overall effect: 3.4.2 ESS: Change fro Fox 2012 Hwang 2017 Mendelson 2014 Munafo 2016 Parthasarathy 2012 Subtotal (95% Cl) Heterogeneity: Chi <sup>2</sup> =	Z = 1.02 (P = <b>om Baseline</b> -1.6 -3.7 -2.3 -5.8 -3.4 0.51, df = 4	5.1 5.2 4 5.5 5 (P = 0.97); 1	28 90 40 58 22 <b>238</b>	-0.7 -3.7 -2.1 -5.1	4.7 4.1 5.9	83 42 64 17 <b>232</b>	9.1% 6.4% 4.8% 2.8% <b>25.7%</b>	0.00 [-1.48, 1.48] -0.20 [-1.95, 1.55] -0.70 [-2.72, 1.32] -0.40 [-3.07, 2.27]			
Test for overall effect: 3.4.2 ESS: Change fro Fox 2012 Hwang 2017 Mendelson 2014 Munafo 2016 Parthasarathy 2012 Subtotal (95% Cl) Heterogeneity: Chi <sup>2</sup> = Test for overall effect:	Z = 1.02 (P = -1.6 -3.7 -2.3 -5.8 -3.4 0.51, df = 4 Z = 0.71 (P =	5.1 5.2 4 5.5 5 (P = 0.97); I = 0.48)	28 90 40 58 22 <b>238</b> <sup>2</sup> =0%	-0.7 -3.7 -2.1 -5.1 -3	4.7 4.1 5.9	83 42 64 17 <b>232</b>	9.1% 6.4% 4.8% 2.8% <b>25.7%</b>	0.00 [-1.48, 1.48] -0.20 [-1.95, 1.55] -0.70 [-2.72, 1.32] -0.40 [-3.07, 2.27] - <b>0.32 [-1.19, 0.56]</b>			

# Figure 20: Quality of Life: Comparison of Values at Endpoint (FOSQ 5-20; higher is better, SF-36 0-100; higher is better)

	Increase	ed support+	CPAP	usua	I care+CP	AP		Mean Difference	Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI
3.5.1 QoL: FOSQ - En	lpoint								
DeMolles 2004	18.1	2.8	15	17	3.7	15	33.4%	1.10 [-1.25, 3.45]	
Parthasarathy 2012	17.1	3.5	22	17.1	3	17	44.1%	0.00 [-2.04, 2.04]	
Stepnowsky 2007 Subtotal (95% CI)	15.2	5	20 57	14.4	4.2	20 52	22.5% 100.0%	0.80 [-2.06, 3.66]	
Heterogeneity: Chi² = Test for overall effect:	•		<b>²</b> =0%						
3.5.2 QoL: SAQLI - En									
Stepnowsky 2013 Subtotal (95% CI)	5.1	2	126 <b>126</b>	4.6	2.6	114 <b>114</b>	100.0% <b>100.0%</b>	0.50 [-0.09, 1.09] 0.50 [-0.09, 1.09]	
Heterogeneity: Not ap Fest for overall effect:		- 0.400							
est for overall effect.	Z = 1.00 (F	= 0.10)							
3.5.3 QoL: SF-36 (PH)	- Endpoint								
Hoy 1999	49	12.6491	40	48	12.6491	40	6.7%	1.00 [-4.54, 6.54]	•
Aendelson 2014	44.6	9.4	40	45.9	8.5	42	13.6%	-1.30 [-5.19, 2.59]	
Pepin 2019	45.6	5.3	80	44.1	5.4	92	79.8%	1.50 [-0.10, 3.10]	<b></b>
Subtotal (95% CI)			160			174	100.0%	1.09 [-0.34, 2.52]	
Heterogeneity: Chi <sup>2</sup> =	1.71. df = 2	(P = 0.43); f	²=0%						
Test for overall effect:	•								
	,	,							
									-2 -1 U 1 2 Favours [control] Favours [experimental]
				0.76), I <sup>z</sup>					

#### Figure 21: Quality of Life: Comparison of Change from Baseline Values(FOSQ, 5-20; higher is better, SF-36 0-100; higher is better)



Test for subgroup differences: Chi<sup>2</sup> = 2.06, df = 2 (P = 0.36), l<sup>2</sup> = 2.8%

#### Figure 22: diastolic blood pressure

	Increased	support+	CPAP	usual o	care+Cl	PAP		Mean Difference		M	ean Differenc	e	
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% CI		IV	, Fixed, 95% C	1	
Nilius 2019	78.4	11.1	26	82.8	9.2	29	100.0%	-4.40 [-9.82, 1.02]					
Total (95% CI)			26			29	100.0%	-4.40 [-9.82, 1.02]			•		
Heterogeneity: Not ap Test for overall effect:		0.11)							100	-50 ased support+(	0 CPAP Favou	50 rs usual care+CPAP	100

#### Figure 23: systolic blood pressure

	Increased support+CPAP				care+C	PAP		Mean Difference	Mean Difference				
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% CI			IV, Fixed, 95	i% CI	
Nilius 2019	129.5	15.2	26	138.8	16.1	29	100.0%	-9.30 [-17.57, -1.03]					
Total (95% CI)			26			29	100.0%	-9.30 [-17.57, -1.03]			•		
Heterogeneity: Not ap Test for overall effect:		0.03)							-100 Favours inc	-50 reased supp	ort+CPAP Fa	50 vours usual care+CPAP	100

### Figure 24: AHI on treatment- comparison of values at end point (lower is better)

	Increased s	upport+0	PAP	Co	ontro	I		Mean Difference	Mean Difference
Study or Subgroup	Mean	<b>SD</b>	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Berry 2020	4.6	4.3	124	4.4	3.9	126	28.2%	0.20 [-0.82, 1.22]	— <b>—</b>
Fox 2012	4.7	3.8	28	6.6	4.8	26	17.8%	-1.90 [-4.22, 0.42]	
Hanger 2018	4.1	3	25	3.4	3.8	19	19.6%	0.70 [-1.37, 2.77]	
Kotzian 2019	4.2	3.9	12	1.6	1.3	11	17.7%	2.60 [0.26, 4.94]	<b>_</b>
Stepnowsky 2007	7.9	4.1	20	5	4	20	16.6%	2.90 [0.39, 5.41]	
Total (95% CI)			209			202	100.0%	0.80 [-0.66, 2.25]	
Heterogeneity: Tau <sup>2</sup> =		•	4 (P = 0.	03); I <b>2</b> =	64%				-4 -2 0 2 4
Test for overall effect:	Z = 1.07 (P = 0	1.28)						Fa	avours Increased support+CPAP Favours control

#### Mixed (SUP/EDU/BEH) Intervention + CPAP versus Usual Care + CPAP- severe E.1.4 OSAHS

#### Figure 25: CPAP Device Usage (hours/night) (higher is better)

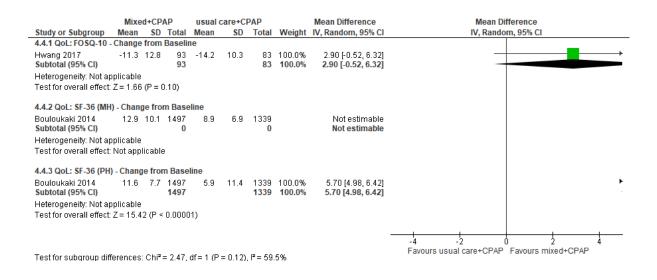
	Mix	ed+CPAF	0	usua	care+C	PAP		Mean Difference	Mean Difference		
Study or Subgroup	Mean	SD	Total	Mean	<b>SD</b>	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI		
Bartlett 2013	3.5	2.57	109	4.1	2.74	97	10.1%	-0.60 [-1.33, 0.13]			
Bouloukaki 2014	6.9	1.8	1550	5.2	2.2	1550	11.6%	1.70 [1.56, 1.84]			
Chen 2015	6.41	1.3	40	4.2	1.2	40	10.7%	2.21 [1.66, 2.76]			
Hui 2000	5.3	1.4697	54	5.3	2.2045	54	10.1%	0.00 [-0.71, 0.71]			
Hwang 2017	4.8	2.3	138	3.8	2.5	129	10.6%	1.00 [0.42, 1.58]	<b>_</b>		
Lewis 2006	4.9	0	32	4.5	0	26		Not estimable			
Meurice 2007	5.1176	2.3664	85	4.7	2.4	27	8.8%	0.42 [-0.62, 1.45]			
Sawyer 2017	4.8	2.27	30	4.7	1.85	30	8.7%	0.10 [-0.95, 1.15]			
Sedkaoui 2015	4.57	2.28	188	4.13	2.42	189	10.9%	0.44 [-0.03, 0.91]			
Shapiro 2017	5.4	1.8	32	5.5	2.5	33	8.7%	-0.10 [-1.16, 0.96]			
Wang 2012	5.2	2	38	2.6	1.6	38	9.7%	2.60 [1.79, 3.41]			
Total (95% CI)			2264			2187	100.0%	0.82 [0.20, 1.43]			
Heterogeneity: Tau <sup>2</sup> =	= 0.84; Ch	i <sup>z</sup> = 111.8	3, df =	9 (P < 0	.00001); I	<sup>2</sup> = 92%		-			
Test for overall effect:	Z = 2.61	(P = 0.00)	9)						Favours usual care+CPAP Favours mixed+CPAP		

### Figure 26: N deemed adherent (≥ four hours/night)

	Mixed+(	<b>PAP</b>	usual care+	+CPAP		Risk Ratio	Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% Cl	M-H, Random, 95% Cl
Bartlett 2013	55	109	54	97	9.3%	0.91 [0.70, 1.17]	
Bouloukaki 2014	1389	1497	1069	1339	28.4%	1.16 [1.13, 1.20]	•
Hui 2000	40	54	38	54	10.5%	1.05 [0.83, 1.33]	+
Hwang 2017	101	138	69	129	13.5%	1.37 [1.13, 1.65]	+
Sawyer 2017	19	30	20	30	5.3%	0.95 [0.66, 1.38]	-+-
Sedkaoui 2015	141	188	124	189	18.7%	1.14 [1.00, 1.30]	-
Shapiro 2017	23	33	25	33	7.6%	0.92 [0.68, 1.24]	
Smith 2006	9	10	4	9	1.5%	2.02 [0.95, 4.33]	
Wang 2012	30	38	18	38	5.3%	1.67 [1.15, 2.42]	
Total (95% CI)		2097		1918	100.0%	1.14 [1.04, 1.26]	•
Total events	1807		1421				
Heterogeneity: Tau <sup>2</sup> =	0.01; Chi <sup>a</sup>	<sup>2</sup> = 16.3 <sup>4</sup>	1, df = 8 (P = 1	0.04); I <sup>2</sup> =	51%		
Test for overall effect:	Z = 2.78 (I	P = 0.00	15)				0.01 0.1 1 10 100 Favours usual care+CPAP Favours mixed+CPAP

Figure 27:	With	ndra	wal					
_	Mixed+(	PAP	usual care	+CPAP		Risk Ratio		Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% Cl		M-H, Random, 95% CI
Bartlett 2013	10	109	19	97	14.4%	0.47 [0.23, 0.96]		
Bouloukaki 2014	53	1550	211	1550	16.5%	0.25 [0.19, 0.34]		
Hui 2000	9	54	2	54	9.5%	4.50 [1.02, 19.87]		
Hwang 2017	57	346	53	354	16.4%	1.10 [0.78, 1.55]		
Lewis 2006	4	36	10	36	12.1%	0.40 [0.14, 1.16]		
Meurice 2007	0	85	0	27		Not estimable		
Sawyer 2017	7	61	8	57	12.9%	0.82 [0.32, 2.11]		
Sedkaoui 2015	1	189	1	190	4.6%	1.01 [0.06, 15.95]		
Shapiro 2017	1	33	0	33	3.7%	3.00 [0.13, 71.07]		
Smith 2006	0	10	0	9		Not estimable		
Wang 2012	2	38	11	38	9.8%	0.18 [0.04, 0.77]		
Total (95% CI)		2511		2445	100.0%	0.64 [0.32, 1.28]		-
Total events	144		315					
Heterogeneity: Tau² =	: 0.73; Chi <sup>a</sup>	²= 55.10	0, df = 8 (P <	0.00001)	; I <sup>2</sup> = 85%		0.01	0.1 1 10 100
Test for overall effect:	Z=1.25 (I	P = 0.21	)				0.01	Favours mixed+CPAP Favours usual care+CPAP

#### Figure 28: Quality of Life: Comparison of Change from Baseline Values (FOSQ, 5-20; higher is better, SF-36 0-100; higher is better)



# Figure 29: Quality of Life: Comparison of Values at Endpoint (FOSQ, 5-20; higher is better, SF-36 0-100; higher is better)

	Mixe	d+CPAP		usual (	care+C	PAP		Mean Difference	Mean Difference	
Study or Subgroup	Mean	SD	Total	Mean	ean SD		Weight	IV, Random, 95% CI	IV, Random, 95% Cl	
4.5.1 QoL: FOSQ - En	Idpoint									
Bartlett 2013 Subtotal (95% CI)	17	2.9	99 <b>99</b>	16.7	2.9	78 <b>78</b>	100.0% <b>100.0%</b>	0.30 [-0.56, 1.16] <b>0.30 [-0.56, 1.16]</b>		
Heterogeneity: Not ap	pplicable									
Test for overall effect	Z = 0.68 (F	<sup>o</sup> = 0.49)								
4.5.2 QoL: SF-36 (PH	) - Endpoin	t								
3ouloukaki 2014	86.3	6.2	1497	81.7	18.2	1339	47.2%	4.60 [3.58, 5.62]	_ <b></b> _	
Chen 2015	50	5	40	43	5	40	35.8%	7.00 [4.81, 9.19]	<b>_</b>	
deurice 2007 Subtotal (95% CI)	47.0351	7.9229	74 1611	46	10.8	24 1403	17.0% <b>100.0%</b>	1.04 [-3.65, 5.72] 4.85 [2.49, 7.21]		
Heterogeneity: Tau <sup>2</sup> = Test for overall effect:				= 0.04);	I² = 69%	6				
									-10 -5 0 5	

Test for subgroup differences: Chi<sup>2</sup> = 12.63, df = 1 (P = 0.0004), l<sup>2</sup> = 92.1%

Favours usual care+CPAP Favours mixed+CPAP

## Figure 30: ESS score (0-24; higher is worse)

Mean ores	SD	Total	Mean			Mean Difference		
			weatt	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
7.77	4.7	99	7.6	4.5	78	11.8%	0.17 [-1.19, 1.53]	
4.2	1.6	1497	7.2	4.3	1339	14.1%	-3.00 [-3.24, -2.76]	+
10.3	1.35	40	11.2	1.65	40	13.5%	-0.90 [-1.56, -0.24]	
6.2188	5.0831	85	5.2	4.1	27	10.3%	1.02 [-0.87, 2.91]	
7.3	3.2	36 <b>1757</b>	10.8	4.2	27 1511	10.3% 60.0%	-3.50 [-5.40, -1.60] - <b>1.29 [-2.86, 0.28]</b>	
.75: Chi <sup>a</sup>	<sup>2</sup> = 66.58	). df = 4	(P < 0.00	0001): P	²= 94%			
= 1.61 (	P = 0.11)	)						
n Baseli	ne							
-8.1	6	1497	-4.3	6.1	1339	13.9%	-3.80 [-4.25, -3.35]	- <b>-</b> -
-8.1	0.8	54	-7.4	0.8	54	14.0%	-0.70 [-1.00, -0.40]	
-3	3.7	93	-3.7	4.7	83	12.1%	0.70 [-0.56, 1.96]	
		1644			1476	40.0%	-1.31 [-3.78, 1.15]	
.59; Chi <sup>a</sup>	<sup>2</sup> = 140.3	2, df= :	2 (P < 0.0	00001);	I <sup>2</sup> = 999	6		
		3401			2987	100.0%	-1.32 [-2.48, -0.16]	
48: Chi	<sup>2</sup> = 245 1		7(P < ∩(	100011				
			, <sub>(1</sub> - 0.0		517	~		-4 -2 0 2 4
			1 (P - 0	00) IZ-	0%			Favours mixed+CPAP Favours usual care+CPAP
	10.3 6.2188 7.3 .75; Chi <sup>-</sup> = 1.61 ( <b>n Baseli</b> -8.1 -8.1 -3 .59; Chi <sup>-</sup> = 1.04 ( .48; Chi <sup>-</sup> = 2.23 (	10.3 1.35   6.2188 5.0831   7.3 3.2   .75; Chi <sup>2</sup> = 66.58   = 1.61 (P = 0.11)   n Baseline   -8.1 6   -8.1 0.8   -3 3.7   .59; Chi <sup>2</sup> = 140.3   = 1.04 (P = 0.30)   .48; Chi <sup>2</sup> = 245.1   = 2.23 (P = 0.03)	10.3 1.35 40 6.2188 5.0831 85 7.3 3.2 36 <b>1757</b> .75; Chi <sup>2</sup> = 66.58, df = 4 = 1.61 (P = 0.11) <b>n Baseline</b> -8.1 6 1497 -8.1 0.8 54 -3 3.7 93 <b>1644</b> .59; Chi <sup>2</sup> = 140.32, df = = 1.04 (P = 0.30) <b>3401</b> .48; Chi <sup>2</sup> = 245.10, df = = 2.23 (P = 0.03)	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$