The effectiveness of psychosocial interventions at reducing the frequency of alcohol and drug use in parents

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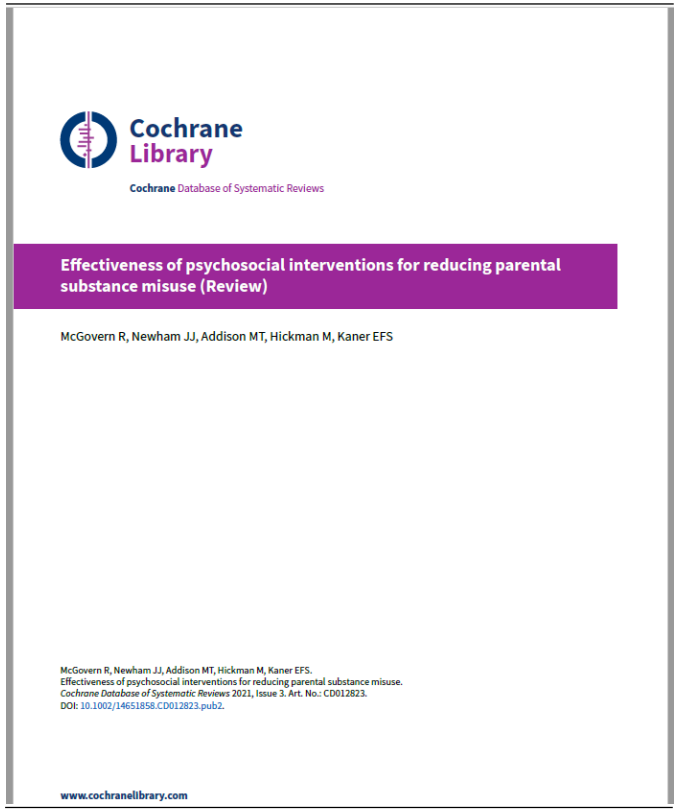
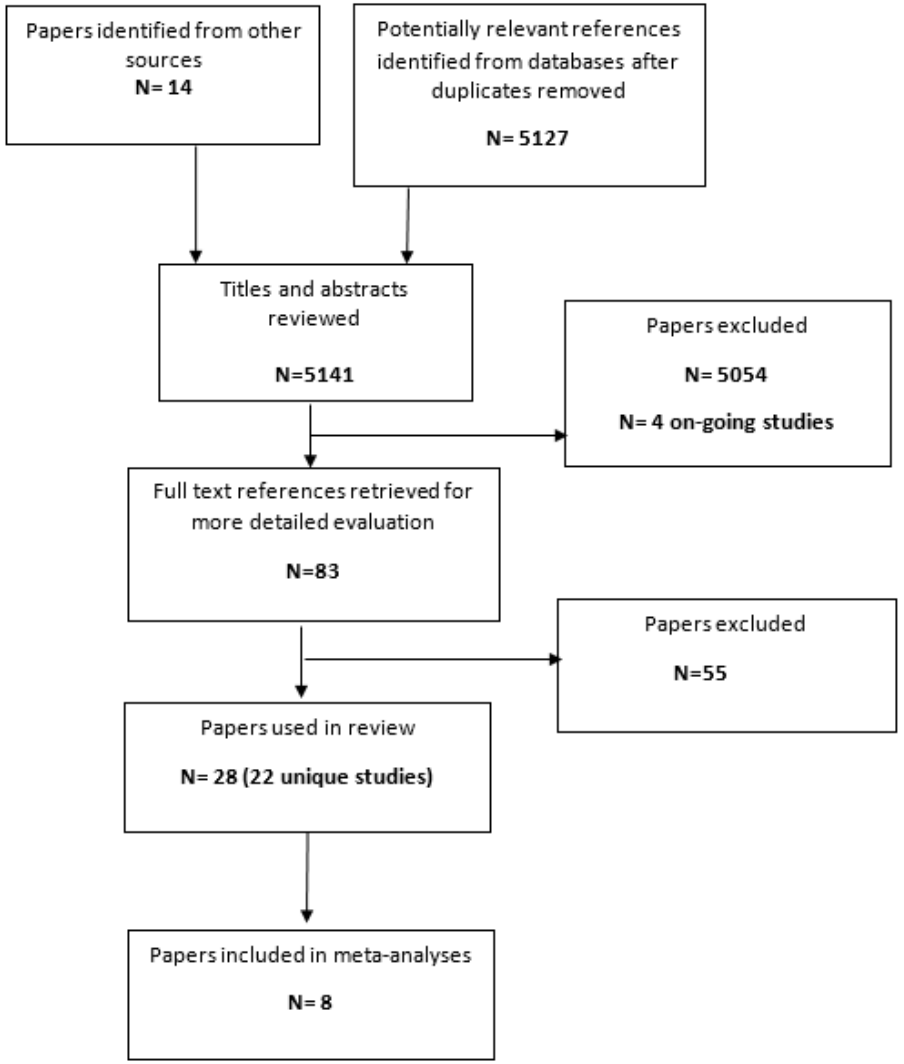
Background

- Parental substance use is a substantial and prevent issue
- Impacts upon both the parent and the child
- Parental substance use is often identified as a risk factor in child welfare
- Little is known about the best way to intervene to reduce the parent's substance use

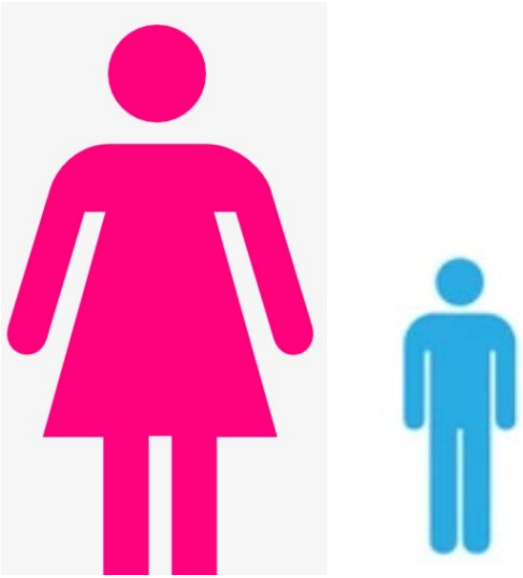


Methods

- Population - substance using adult parents (≥18 years) or their children (0-21 years)
- Intervention – Psychosocial interventions
- Comparison – no intervention, delayed, attention control, alternative active treatment, treatment as usual
- Outcome - Reduction in parental substance use (primary)
- Study design - trials



Description of studies



Intervention type

Analysis 2.3 Comparison 2: Frequency of alcohol misuse, intervention type

Outcome 3: Integrated parenting interventions

Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Std. mean difference IV, Random, 95% CI
2.3.1 Short term follow up (6m)								
Lam 2009 (Intervention 1)	14.9	20.7	25	29.8	22.6	13	16.5%	-0.68 [-1.37 , 0.01]
Lam 2009 (Intervention 2)	15.7	22.4	25	29.8	22.6	13	16.7%	-0.61 [-1.30 , 0.07]
Kelley 2002 (Intervention 2)	19.4	27.2	25	29.6	25.3	12	16.3%	-0.37 [-1.07 , 0.32]
Subtotal (95% CI)			**75**			**38**	**49.5%**	**-0.56 [-0.96 , -0.16]**
Heterogeneity: Tau² = 0.00; Chi² = 0.42, df = 2 (P = 0.81); I² = 0%								
Test for overall effect: Z = 2.75 (P = 0.006)								
2.3.2 Long term follow up (12m)								
Kelley 2002 (Intervention 2)	29.1	25.6	25	42.1	32.1	12	16.2%	-0.46 [-1.15 , 0.24]
Lam 2009 (Intervention 2)	21.4	19.4	25	29.8	18.6	13	17.1%	-0.43 [-1.11 , 0.25]
Lam 2009 (Intervention 1)	22.2	20.2	25	29.8	18.6	13	17.2%	-0.38 [-1.05 , 0.30]
Subtotal (95% CI)			**75**			**38**	**50.5%**	**-0.42 [-0.82 , -0.03]**
Heterogeneity: Tau² = 0.00; Chi² = 0.03, df = 2 (P = 0.99); I² = 0%								
Test for overall effect: Z = 2.09 (P = 0.04)								

Analysis 2.1 Comparison 2: Frequency of alcohol misuse, intervention type

Outcome 1: Substance-focused interventions

Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Std. mean difference IV, Random, 95% CI
2.1.1 Short term follow up (6m)								
Slesnick 2013	7.18	13.6	30	20.37	30.51	25	45.7%	-0.57 [-1.11 , -0.03]
Kelley 2002 (Intervention 1)	28.6	26.2	22	29.6	25.3	12	27.2%	-0.04 [-0.74 , 0.67]
Subtotal (95% CI)			**52**			**37**	**72.9%**	**-0.35 [-0.86 , 0.16]**
Heterogeneity: Tau² = 0.04; Chi² = 1.37, df = 1 (P = 0.24); I² = 27%								
Test for overall effect: Z = 1.35 (P = 0.18)								
2.1.2 Long term follow up (12m)								
Kelley 2002 (Intervention 1)	39.6	22.4	22	42.1	32.1	12	27.1%	-0.09 [-0.80 , 0.61]
Subtotal (95% CI)			**22**			**12**	**27.1%**	**-0.09 [-0.80 , 0.61]**
Heterogeneity: Not applicable								
Test for overall effect: Z = 0.26 (P = 0.79)								

Analysis 2.2 Comparison 2: Frequency of alcohol misuse, intervention type

Outcome 2: Parenting-focused interventions

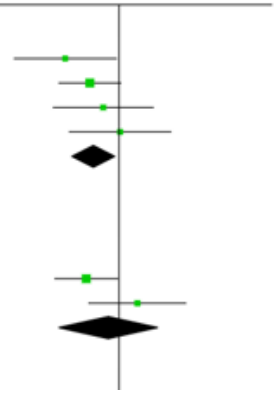
Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Std. mean difference IV, Random, 95% CI
2.2.1 Short term follow up (6m)								
Slesnick 2016	9.63	19.56	114	16.42	26.51	51	31.6%	-0.31 [-0.64 , 0.02]
Donohue 2014	1.9	4.3	24	4.5	20.1	31	12.2%	-0.17 [-0.70 , 0.37]
Dakof 2010	1.1	5.56	29	1.04	4.09	24	11.9%	0.01 [-0.53 , 0.55]
Subtotal (95% CI)			**167**			**106**	**55.7%**	**-0.21 [-0.46 , 0.04]**
Heterogeneity: Tau² = 0.00; Chi² = 1.01, df = 2 (P = 0.60); I² = 0%								
Test for overall effect: Z = 1.64 (P = 0.10)								
2.2.2 Long term follow up (12m)								
Slesnick 2016	9.7	20.62	110	18.23	31.31	51	31.2%	-0.35 [-0.68 , -0.01]
Dakof 2010	1	2.92	29	0.55	1.4	29	13.1%	0.19 [-0.32 , 0.71]
Subtotal (95% CI)			**139**			**80**	**44.3%**	**-0.11 [-0.64 , 0.41]**
Heterogeneity: Tau² = 0.10; Chi² = 2.97, df = 1 (P = 0.08); I² = 66%								
Test for overall effect: Z = 0.42 (P = 0.67)								

Mothers

Analysis 4.1 Comparison 4: Frequency of alcohol misuse, recipient parent

Outcome 1: Mother

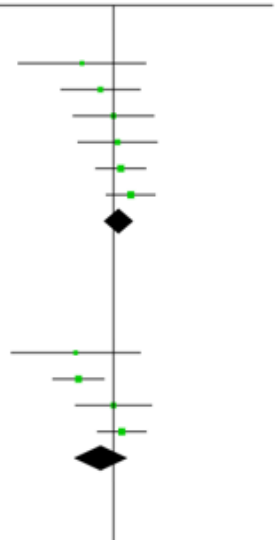
Study or Subgroup	Experimental Mean	Experimental SD	Experimental Total	Control Mean	Control SD	Control Total	Weight	Std. mean difference IV, Random, 95% CI
3.1.1 Short term follow up (6m)								
Slesnick 2013	7.18	13.6	30	20.37	30.51	25	11.3%	-0.57 [-1.11 , -0.03]
Slesnick 2016	9.63	19.56	114	16.42	26.51	51	26.9%	-0.31 [-0.64 , 0.02]
Donohue 2014	1.9	4.3	24	4.5	20.1	31	11.6%	-0.17 [-0.70 , 0.37]
Dakof 2010	1.1	5.56	29	1.04	4.09	24	11.3%	0.01 [-0.53 , 0.55]
Subtotal (95% CI)			**197**			**131**	**61.1%**	**-0.27 [-0.50 , -0.04]**
Heterogeneity: Tau² = 0.00; Chi² = 2.41, df = 3 (P = 0.49); I² = 0%								
Test for overall effect: Z = 2.35 (P = 0.02)								
3.1.2 Long term follow up (12m)								
Slesnick 2016	9.7	20.62	110	18.23	31.31	51	26.5%	-0.35 [-0.68 , -0.01]
Dakof 2010	1	2.92	29	0.55	1.4	29	12.4%	0.19 [-0.32 , 0.71]
Subtotal (95% CI)			**139**			**80**	**38.9%**	**-0.11 [-0.64 , 0.41]**
Heterogeneity: Tau² = 0.10; Chi² = 2.97, df = 1 (P = 0.08); I² = 66%								
Test for overall effect: Z = 0.42 (P = 0.67)								



Analysis 8.1 Comparison 8: Frequency of drug use, recipient parent

Outcome 1: Mother

Study or Subgroup	Psychosocial Mean	Psychosocial SD	Psychosocial Total	Comparison Mean	Comparison SD	Comparison Total	Weight	Std. Mean Difference IV, Random, 95% CI
8.1.1 Short-term follow up (6 months)								
Saldana 2015	0.42	1.16	13	1.3	2.83	9	3.5%	-0.42 [-1.28 , 0.44]
Donohue 2014	6.4	20	24	10	20.3	31	7.9%	-0.18 [-0.71 , 0.36]
Dakof 2010	0	0.01	29	0	0.01	23	7.6%	0.00 [-0.55 , 0.55]
Slesnick 2013	30.5	40.1	30	28.35	37.18	25	8.0%	0.05 [-0.48 , 0.59]
Catalano 1999	9.08	25.78	78	6.78	19.69	57	15.1%	0.10 [-0.24 , 0.44]
Slesnick 2016	16.1	33.88	114	8.83	24.18	51	15.7%	0.23 [-0.10 , 0.56]
Subtotal (95% CI)			**288**			**196**	**57.8%**	**0.07 [-0.12 , 0.25]**
Heterogeneity: Tau² = 0.00; Chi² = 3.08, df = 5 (P = 0.69); I² = 0%								
Test for overall effect: Z = 0.71 (P = 0.48)								
8.1.2 Long-term follow up (12 months)								
Saldana 2015	0	0.1	13	3.33	10	9	3.4%	-0.51 [-1.37 , 0.36]
Catalano 1999	6.89	15.81	74	19.68	36.82	58	14.7%	-0.47 [-0.82 , -0.12]
Dakof 2010	0	0.01	29	0	0.01	29	8.4%	0.00 [-0.51 , 0.51]
Slesnick 2016	12.31	28.96	110	9.2	25.18	51	15.6%	0.11 [-0.22 , 0.44]
Subtotal (95% CI)			**226**			**147**	**42.2%**	**-0.17 [-0.51 , 0.17]**
Heterogeneity: Tau² = 0.06; Chi² = 6.57, df = 3 (P = 0.09); I² = 54%								
Test for overall effect: Z = 1.00 (P = 0.32)								

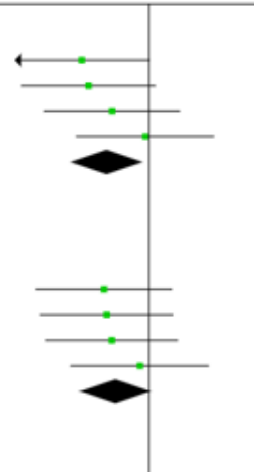


Fathers

Analysis 4.2 Comparison 4: Frequency of alcohol misuse, recipient parent

Outcome 2: Father

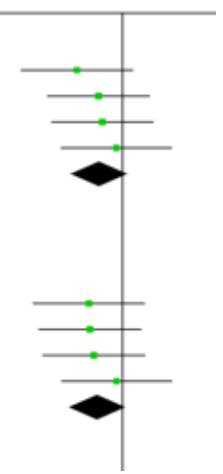
Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Std. mean difference IV, Random, 95% CI
3.2.1 Short term follow up (6m)								
Lam 2009 (Intervention 1)	14.9	20.7	25	29.8	22.6	13	12.5%	-0.68 [-1.37 , 0.01]
Lam 2009 (Intervention 2)	15.7	22.4	25	29.8	22.6	13	12.7%	-0.61 [-1.30 , 0.07]
Kelley 2002 (Intervention 2)	19.4	27.2	25	29.6	25.3	12	12.4%	-0.37 [-1.07 , 0.32]
Kelley 2002 (Intervention 1)	28.6	26.2	22	29.6	25.3	12	12.1%	-0.04 [-0.74 , 0.67]
Subtotal (95% CI)			**97**			**50**	**49.7%**	**-0.43 [-0.78 , -0.09]**
Heterogeneity: Tau² = 0.00; Chi² = 2.01, df = 3 (P = 0.57); I² = 0%								
Test for overall effect: Z = 2.44 (P = 0.01)								
3.2.3 Long term follow up (12m)								
Kelley 2002 (Intervention 2)	29.1	25.6	25	42.1	32.1	12	12.3%	-0.46 [-1.15 , 0.24]
Lam 2009 (Intervention 2)	21.4	19.4	25	29.8	18.6	13	13.0%	-0.43 [-1.11 , 0.25]
Lam 2009 (Intervention 1)	22.2	20.2	25	29.8	18.6	13	13.0%	-0.38 [-1.05 , 0.30]
Kelley 2002 (Intervention 1)	39.6	22.4	22	42.1	32.1	12	12.0%	-0.09 [-0.80 , 0.61]
Subtotal (95% CI)			**97**			**50**	**50.3%**	**-0.34 [-0.69 , 0.00]**
Heterogeneity: Tau² = 0.00; Chi² = 0.66, df = 3 (P = 0.88); I² = 0%								
Test for overall effect: Z = 1.95 (P = 0.05)								



Analysis 8.2 Comparison 8: Frequency of drug use, recipient parent

Outcome 2: Father

Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Std. mean difference IV, Random, 95% CI
7.2.1 Short term follow up (6m)								
Kelley 2002 (Intervention 2)	22.4	25.8	22	38.5	26.8	11	11.3%	-0.60 [-1.34 , 0.14]
Lam 2009 (Intervention 1)	14.9	20.7	25	21.8	22.6	13	13.6%	-0.32 [-0.99 , 0.36]
Lam 2009 (Intervention 2)	15.7	22.4	25	21.8	22.6	13	13.6%	-0.27 [-0.94 , 0.41]
Kelley 2002 (Intervention 1)	36.4	24.3	21	38.5	26.8	11	11.6%	-0.08 [-0.81 , 0.65]
Subtotal (95% CI)			**93**			**48**	**50.0%**	**-0.31 [-0.66 , 0.04]**
Heterogeneity: Tau² = 0.00; Chi² = 0.99, df = 3 (P = 0.80); I² = 0%								
Test for overall effect: Z = 1.74 (P = 0.08)								
7.2.2 Long term follow up (12m)								
Kelley 2002 (Intervention 2)	33.1	35.6	22	48.8	32.2	11	11.5%	-0.44 [-1.18 , 0.29]
Lam 2009 (Intervention 2)	21.4	19.4	25	29.8	18.6	13	13.4%	-0.43 [-1.11 , 0.25]
Lam 2009 (Intervention 1)	22.2	20.2	25	29.8	18.6	13	13.5%	-0.38 [-1.05 , 0.30]
Kelley 2002 (Intervention 1)	46.6	24.8	21	48.8	32.2	11	11.6%	-0.08 [-0.81 , 0.65]
Subtotal (95% CI)			**93**			**48**	**50.0%**	**-0.34 [-0.69 , 0.01]**
Heterogeneity: Tau² = 0.00; Chi² = 0.65, df = 3 (P = 0.88); I² = 0%								
Test for overall effect: Z = 1.88 (P = 0.06)								



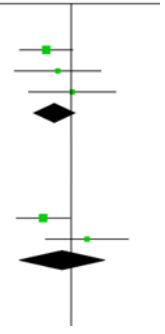
Effectiveness of psychosocial interventions

Involving the child

Analysis 3.1 Comparison 3: Frequency of alcohol misuse, child involvement

Outcome 1: Child present

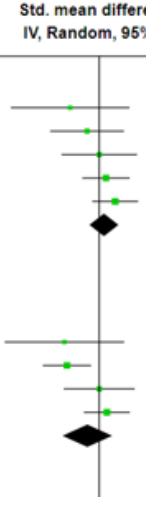
Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Std. mean difference IV, Random, 95% CI
4.1.1 Short term follow up (6m)								
Slesnick 2016	9.63	19.56	114	16.42	26.51	51	31.6%	-0.31 [-0.64 , 0.02]
Donohue 2014	1.9	4.3	24	4.5	20.1	31	12.2%	-0.17 [-0.70 , 0.37]
Dakof 2010	1.1	5.56	29	1.04	4.09	24	11.9%	0.01 [-0.53 , 0.55]
Subtotal (95% CI)			**167**			**106**	**55.7%**	**-0.21 [-0.46 , 0.04]**
Heterogeneity: Tau² = 0.00; Chi² = 1.01, df = 2 (P = 0.60); I² = 0%								
Test for overall effect: Z = 1.64 (P = 0.10)								
4.1.2 Long term follow up (12m)								
Slesnick 2016	9.7	20.62	110	18.23	31.31	51	31.2%	-0.35 [-0.68 , -0.01]
Dakof 2010	1	2.92	29	0.55	1.4	29	13.1%	0.19 [-0.32 , 0.71]
Subtotal (95% CI)			**139**			**80**	**44.3%**	**-0.11 [-0.64 , 0.41]**
Heterogeneity: Tau² = 0.10; Chi² = 2.97, df = 1 (P = 0.08); I² = 66%								
Test for overall effect: Z = 0.42 (P = 0.67)								



Analysis 7.1 Comparison 7: Frequency of drug use, child involvement

Outcome 1: Child present

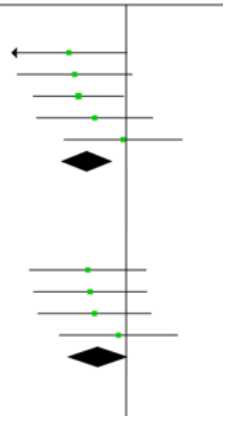
Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Std. mean difference IV, Random, 95% CI
8.1.1 Short term follow up (6m)								
Saldana 2015	0.42	1.16	13	1.3	2.83	9	4.1%	-0.42 [-1.28 , 0.44]
Donohue 2014	6.4	20	24	10	20.3	31	9.0%	-0.18 [-0.71 , 0.36]
Dakof 2010	0	0.01	29	0	0.01	23	8.6%	0.00 [-0.55 , 0.55]
Catalano 1999	9.08	25.78	78	6.78	19.69	57	16.0%	0.10 [-0.24 , 0.44]
Slesnick 2016	16.1	33.88	114	8.83	24.18	51	16.6%	0.23 [-0.10 , 0.56]
Subtotal (95% CI)			**258**			**171**	**54.3%**	**0.07 [-0.13 , 0.26]**
Heterogeneity: Tau² = 0.00; Chi² = 3.08, df = 4 (P = 0.55); I² = 0%								
Test for overall effect: Z = 0.68 (P = 0.50)								
8.1.2 Long term follow up (12m)								
Saldana 2015	0	0.1	13	3.33	10	9	4.0%	-0.51 [-1.37 , 0.36]
Catalano 1999	6.89	15.81	74	19.68	36.82	58	15.7%	-0.47 [-0.82 , -0.12]
Dakof 2010	0	0.01	29	0	0.01	29	9.5%	0.00 [-0.51 , 0.51]
Slesnick 2016	12.31	28.96	110	9.2	25.18	51	16.5%	0.11 [-0.22 , 0.44]
Subtotal (95% CI)			**226**			**147**	**45.7%**	**-0.17 [-0.51 , 0.17]**
Heterogeneity: Tau² = 0.06; Chi² = 6.57, df = 3 (P = 0.09); I² = 54%								
Test for overall effect: Z = 1.00 (P = 0.32)								



Analysis 3.2 Comparison 3: Frequency of alcohol misuse, child involvement

Outcome 2: Without child

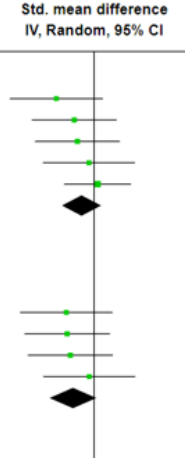
Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Std. mean difference IV, Random, 95% CI
4.2.1 Short term follow up (6m)								
Lam 2009 (Intervention 1)	14.9	20.7	25	29.8	22.6	13	10.4%	-0.68 [-1.37 , 0.01]
Lam 2009 (Intervention 2)	15.7	22.4	25	29.8	22.6	13	10.5%	-0.61 [-1.30 , 0.07]
Slesnick 2013	7.18	13.6	30	20.37	30.51	25	16.9%	-0.57 [-1.11 , -0.03]
Kelley 2002 (Intervention 2)	19.4	27.2	25	29.6	25.3	12	10.3%	-0.37 [-1.07 , 0.32]
Kelley 2002 (Intervention 1)	28.6	26.2	22	29.6	25.3	12	10.0%	-0.04 [-0.74 , 0.67]
Subtotal (95% CI)			**127**			**75**	**58.2%**	**-0.47 [-0.76 , -0.18]**
Heterogeneity: Tau² = 0.00; Chi² = 2.19, df = 4 (P = 0.70); I² = 0%								
Test for overall effect: Z = 3.17 (P = 0.002)								
4.2.2 Long term follow up (12m)								
Kelley 2002 (Intervention 2)	29.1	25.6	25	42.1	32.1	12	10.2%	-0.46 [-1.15 , 0.24]
Lam 2009 (Intervention 2)	21.4	19.4	25	29.8	18.6	13	10.8%	-0.43 [-1.11 , 0.25]
Lam 2009 (Intervention 1)	22.2	20.2	25	29.8	18.6	13	10.8%	-0.38 [-1.05 , 0.30]
Kelley 2002 (Intervention 1)	39.6	22.4	22	42.1	32.1	12	10.0%	-0.09 [-0.80 , 0.61]
Subtotal (95% CI)			**97**			**50**	**41.8%**	**-0.34 [-0.69 , 0.00]**
Heterogeneity: Tau² = 0.00; Chi² = 0.66, df = 3 (P = 0.88); I² = 0%								
Test for overall effect: Z = 1.95 (P = 0.05)								



Analysis 7.2 Comparison 7: Frequency of drug use, child involvement

Outcome 2: Without child

Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Std. mean difference IV, Random, 95% CI
8.2.1 Short term follow up (6m)								
Kelley 2002 (Intervention 2)	22.4	25.8	22	38.5	26.8	11	9.2%	-0.60 [-1.34 , 0.14]
Lam 2009 (Intervention 1)	14.9	20.7	25	21.8	22.6	13	11.1%	-0.32 [-0.99 , 0.36]
Lam 2009 (Intervention 2)	15.7	22.4	25	21.8	22.6	13	11.2%	-0.27 [-0.94 , 0.41]
Kelley 2002 (Intervention 1)	36.4	24.3	21	38.5	26.8	11	9.5%	-0.08 [-0.81 , 0.65]
Slesnick 2013	30.5	40.1	30	28.35	37.18	25	18.0%	0.05 [-0.48 , 0.59]
Subtotal (95% CI)			**123**			**73**	**59.0%**	**-0.20 [-0.49 , 0.09]**
Heterogeneity: Tau² = 0.00; Chi² = 2.27, df = 4 (P = 0.69); I² = 0%								
Test for overall effect: Z = 1.34 (P = 0.18)								
8.2.2 Long term follow up (12m)								
Kelley 2002 (Intervention 2)	33.1	35.6	22	48.8	32.2	11	9.4%	-0.44 [-1.18 , 0.29]
Lam 2009 (Intervention 2)	21.4	19.4	25	29.8	18.6	13	11.0%	-0.43 [-1.11 , 0.25]
Lam 2009 (Intervention 1)	22.2	20.2	25	29.8	18.6	13	11.1%	-0.38 [-1.05 , 0.30]
Kelley 2002 (Intervention 1)	46.6	24.8	21	48.8	32.2	11	9.5%	-0.08 [-0.81 , 0.65]
Subtotal (95% CI)			**93**			**48**	**41.0%**	**-0.34 [-0.69 , 0.01]**
Heterogeneity: Tau² = 0.00; Chi² = 0.65, df = 3 (P = 0.88); I² = 0%								
Test for overall effect: Z = 1.88 (P = 0.06)								



Conclusions

- Traditional drug and alcohol treatment may not be enough
- Fathers seem to benefit more
- Mothers – negative recovery capital?
- Involving children may not be helpful
- Limitations