

Appendix 1. Quantitative data abstracted by trial

Trial	Intervention Characteristics				Outcome (Longest follow-up and duration of abstinence)				Attrition	
	Max Discrete Dose	Average Discrete Dose	Total Max Duration	Average Total Duration	Abstinent/Total Controls	%	Abstinent/Total Intervention	%	Rate	Analysis of Attrition
<i>Borland 2003</i> ⁵²	No data	3.3 calls at 10-15 minutes each	6 months	No data	24/523	4.6	32/528	6.1	23.40%	Yes, attrition negatively associated with age but not gender or educational attainment
<i>Gruder 1993</i> ²⁵	3 meetings at 90 minutes each	2.3 meetings	3 weeks	No data	6/97	6.4	19/100	19	56.6% at 6 months	Yes, rates in each condition were evaluated but not by baseline characteristics
<i>Lando 1997</i> ³⁷	4 calls	3.76 calls at 10-15 minutes each	12 weeks	No data	40/174	23.0	40/162	24.7	1% at 6 months	Yes, no differences in response rates between conditions
<i>Malchodi 2003</i> ³⁸	8 meetings	Median of 6 meetings, approximately 45 minutes each	36 weeks	No data	16/75	21	16/67	24	43% intervention, 36% control	Yes, compared retained vs. unretained groups, no significant differences except readiness to quit but favored the control group
<i>Malott 1984</i> ²⁸	No data	No data	6 weeks	6 weeks	3/11	27.3	2/12	16.7	None	None
<i>May 2006</i> ²⁴	No data	No data	6 weeks	6 weeks	48/326	15	30/237	13	15.2% at 26 weeks	None
<i>Orleans 1991</i> ⁴⁵	4 calls	4 calls at 15-30 minutes each	60 weeks	No data	58/501	11.6	97/510	19.0	7.1 % intervention, 6.0% control	Yes, response rates did not differ across the four treatment groups. Responders vs. non-responder characteristics evaluated
<i>Powell 1981</i> ³¹	No data	No data	4 weeks	9 weeks	11/17	64.7	15/17	88.2	None	None
<i>Solomon 2000A</i> ³⁹	No data	7 calls at 9 minutes per call	3 months	No data	20/108	20	24/106	23	5% intervention, 15% control at 3 months	None
<i>Solomon 2000B</i> ⁴⁰	No data	13 calls at 10 minutes per call	No data	No data	11/74	14.9	14/77	18.2	10.6% at end of pregnancy (28-34 weeks)	Yes, women lost to follow up did not vary by condition but were significantly less educated (p=0.03)
<i>Solomon 2005</i> ⁴⁴	No data	8.2 calls (SD=4.0), 10.1 minutes (SD=5.6) each	4 months	No data	48/159	30.2	65/171	38	13% at 6 months	None
<i>West 1998</i> ³⁰	None	No data	4 weeks	4 weeks	12/102	11.8	19/70*	27.1	None	N/A
<i>White 2020</i> ²³	None	24.5 SMS messages per participant	42 days	42 days	13/99	13.1	24/101	23.8	44.6% intervention, 44% control at 3 months	Yes
<i>Woodruff 2002</i> ⁴¹	7 sessions: 4 home visits (1-2 hours each), 3 phone calls (15-30 minutes each)	3.44 (SD=3.25) home and telephone sessions	3 months	No data	13/157	8.3	27/156	17.3	total 9.9% (4.5% control, 15.4% intervention) p<0.001	Yes, no significant differences in baseline or sociodemographic variables by treatment condition but dropout were overall more likely to be more accultured and have higher education levels
<i>Zhu 1996</i> ⁴²	6 calls (3 hours total)	4 sessions at 20 minutes each + 50 minute pre-session	3 months	No data	102/841	12.1	178/1046	17.0	14.3% control, 12.3% intervention	No
<i>Zhu 2002</i> ⁴³	7 sessions	2.9 sessions	3 months	No data	57/846	6.7	203/1275	15.9	No data	No

Appendix 2. Qualitative data abstracted by trial

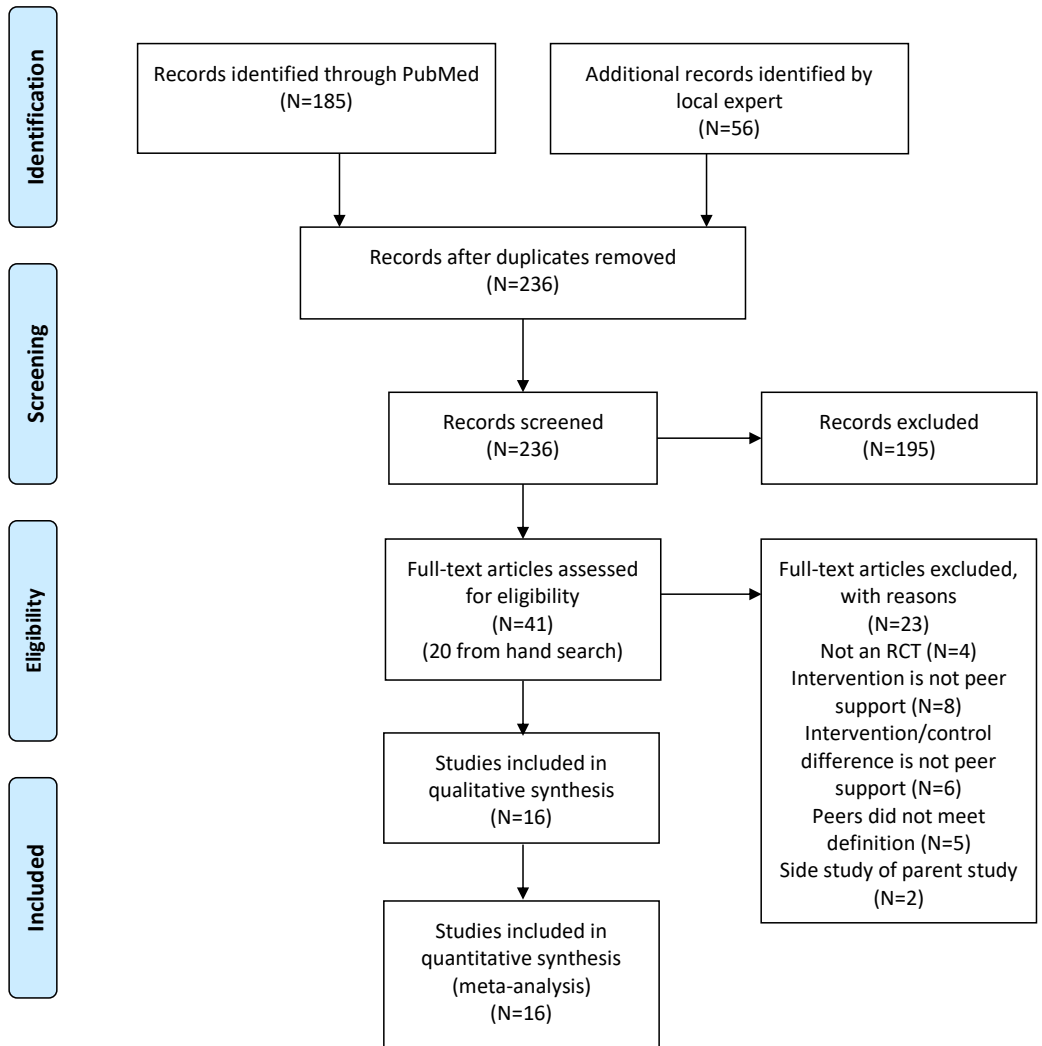
<i>Trial</i>	<i>Setting</i>	<i>Sample Characteristics</i>	<i>Recruitment Methods</i>	<i>Smoker Definition</i>	<i>Peer Definition</i>	<i>Peer Smoking Status</i>	<i>Peer Training Methods</i>	<i>Medium</i>	<i>Outcome Measure</i>
<i>Borland 2003</i> ³²	Victoria, Australia	Callers to Victorian Quitline	Various media (television, radio and print) and general practitioners	No data	Sessional staff proficient in telephone counseling	Unknown	Some	Phone	3, 6, and 12-month follow-up self-reported, point prevalence and 9 month sustained abstinence
<i>Gruder 1993</i> ²⁵	Chicago metro area, Illinois, USA	No data	Free televised smoking cessation program	No data	Self-selected buddy	Non-smoker	Some	In-person and phone	Abstinence at 6, 12, and 24 months, 7-day point prevalence
<i>Lando 1997</i> ³⁷	Minnesota, USA	Patients of HMOs in Minnesota	Physician referrals and newsletters	At least 20 cigarettes daily for the past 2 years	No data	Unknown	Experience providing smoking cessation counseling by phone and additional instruction for nicotine patches	Phone	Abstinence at 6 and 12 months after quit date, self-reported biochemically verified, 7-day point prevalence
<i>Malchodi 2003</i> ³⁸	Connecticut, USA	Low-income, pregnant, and predominantly Hispanic women	Clinic patients	Smoke at least once per day before learning of pregnancy	Female staff with similar SES and cultural background	Non-smoker	5 hours in 2 sessions from a local expert	In-person and phone	Abstinence at 36 weeks' gestation verified by CO and cotinine (point-prevalence not specified)
<i>Malott 1984</i> ²⁸	Telephone company and medical clinic, North Dakota, USA	Generally clerical or lower level professional staff	Posters and newsletters at worksite	Self-selected moderate to heavy smokers	Self-selected, same sex, and co-worker	Current smoker	Some	In-person	Abstinence at 6 months and CO <5ppm verified, 7-day point-prevalence
<i>May 2006</i> ²⁴	Three medical centers SW England	Participants of another smoking cessation study	Local newspapers, word-of-mouth, GP referrals	Smoke at least 10 cigarettes per day	Self-selected within the same group of the study	Current smoker	None	In-person and phone	Abstinence at 1, 4, and 26 weeks, CO <10ppm or 7ppm above ambient verified, continuous point-prevalence
<i>Orleans 1991</i> ⁴⁵	Western Washington State, USA	Patients at a large HMO in western Washington State	Magazine advertisement and physician referrals	Smoked for at least 1 year and currently smoked three or more cigarettes per day	Three college-educated counselors	Former smoker	"Brief training" and mixed prior experience in smoking cessation counseling	Phone	Abstinence at 8 and 16 months with one week and one month point prevalence, cotinine verified at 16-month follow-up, and random sample of 58 continued smokers
<i>Powell 1981</i> ³¹	Ann Arbor, Michigan, USA	No data	Newspaper, billboard, word-of-mouth, participants of another study	No data	Fellow participant in the study	Current smoker	None	Phone	Abstinence at 0, 2, 6, and 12 months, continuous point-prevalence
<i>Solomon 2000A</i> ³⁹	Chittenden County, Vermont, USA	Medicaid eligible women of childbearing age (non-pregnant)	Flyers in health care agencies and public billboards	Smoke more than 4 cigarettes per day	Female	Former smoker	7 hours	Phone	Abstinence at 3 and 6 months, 7-day point prevalence, CO <9ppm verified
<i>Solomon 2000B</i> ⁴⁰	Vermont, USA	Low-income women in Vermont	In-person by a nurse	Smoked at least 1 cigarette in the past week	Female	Former smoker	8 hours	Phone	Abstinence at end of pregnancy (28-34 weeks), 7-day point prevalence, cotinine confirmed <80 ng/ml
<i>Solomon 2005</i> ⁴⁴	Vermont, USA	Low-income women in Vermont	Flyers in health care agencies and public billboards	Smoke more than 4 cigarettes per day	Female	Former smoker	8 hours	Phone	Abstinence at 3 and 6 months, 30-day point prevalence

<i>West 1998</i> ³⁰	General practice smoker's clinic in London, UK	Low SES, general practice patients in London	Mail	No data	Same sex (except three couples) and same quit date	Current smoker	None	In-person, phone	Abstinence since last session assessed at end of treatment and 1 week after quit date, CO <10ppm verified, 3-week point-prevalence
<i>White 2020</i> ²³	Online, USA	No data	Google, Facebook, smoking websites	Smoked at least 100 cigarettes in lifetime and a current cigarette smoker	No data	Former smoker	A series of online modules including motivational interviewing	SMS	Abstinence at 3 months verified by cotinine, 7-day point-prevalence
<i>Woodruff 2002</i> ⁴¹	San Diego County, California, USA	Spanish speaking Latino smokers living in San Diego County	Community events, shopping centers, social networks of trained recruiters	Self-reported	Lay community health advisors ("promotores") with an existing community relationship paid a modest stipend	Unknown	25 hours within 9 lessons over 5 weeks	In-person and phone	Abstinence with 7-day point-prevalence post-intervention, self-report and CO <8ppm verified self-reports
<i>Zhu 1996</i> ⁴²	San Diego County, California, USA	Callers to the San Diego Smoking Helpline	San Diego County ongoing antismoking campaign advertisements	No data	Paid counselors, two finishing graduate degrees and eight lay counselors	Unknown	45 hours	Phone	Abstinence at 3, 6, and 12 months, with continuous point-prevalence, cotinine verified for a convenience sample
<i>Zhu 2002</i> ⁴³	San Diego County, California, USA	Smokers who called California Smokers' Helpline	No data	No data	English and/or Spanish speaking, minimum bachelor's degree	Unknown	60 hours	Phone	Abstinence at 1, 3, 6, 12 months, with continuous point-prevalence, self-report

Appendix 3. PRISMA flow diagram



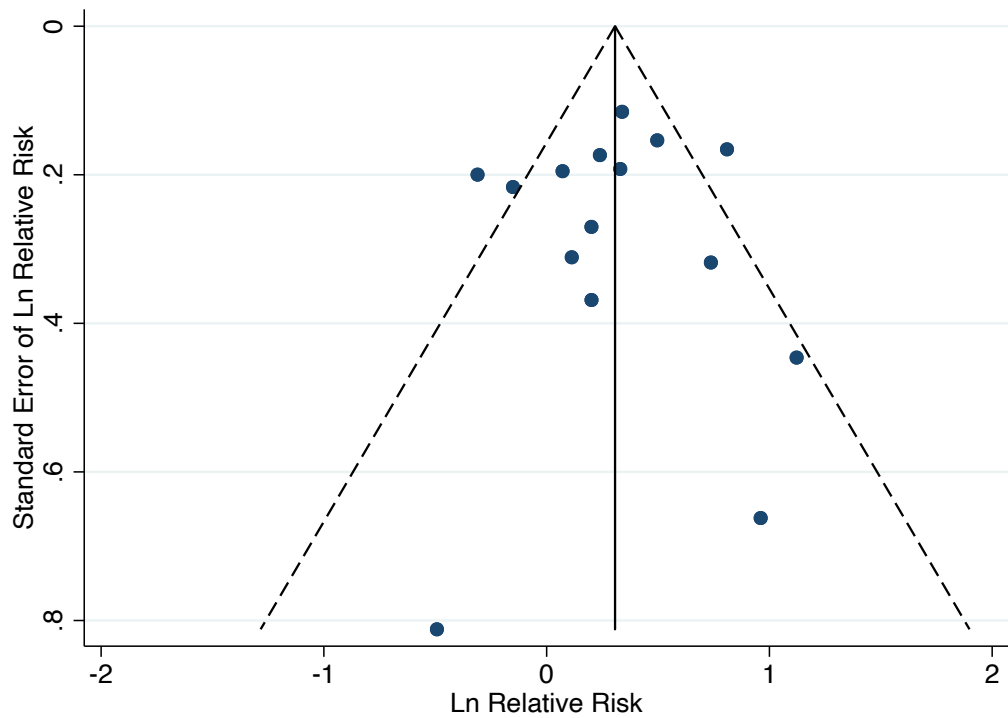
PRISMA 2009 Flow Diagram



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit www.prisma-statement.org.

Appendix 4. Funnel plot with pseudo 95% confidence limits of 15 trials with follow-up timepoints >3 and <9 months from randomization



Note: Each dot represents a trial. The dashed lines indicate the triangular region within which 95% of trials are expected to lie in the absence of biases and heterogeneity. The vertical line represents the natural log of relative risk of the 14 trials ($RR=1.34$; $\ln(RR)=0.293$) included in the primary analysis.

Appendix 5. PubMed search algorithm

(((((("Smoking Cessation"[Mesh] OR Smoking Cessations OR Stopping Smoking OR Giving Up Smoking OR Quitting Smoking))) AND ("peer mentor" OR "peer mentors" OR "peer mentoring" OR "peer based intervention" OR "peer led intervention" OR "peer based interventions" OR "peer led interventions" OR "peer education" OR peers OR "peer support" OR "peer counseling" OR "group support" OR "group education" OR "peer leader" OR "opinion leader")) AND ((intervention OR random* OR "randomized controlled trial"[pt] OR ((control OR controlled) AND trial) OR experimental OR experiment OR "controlled clinical trial"[pt] OR "clinical trial"[pt] OR "clinical trial" OR "control group" OR "placebo group")) AND ("adult"))))

Appendix 6. List of included trials and source

	Included Trial	Source
1	Malott 1984 ²⁸	Park 2008 ²⁰ references
2	Powell 1981 ³¹	Park 2008 ²⁰ references
3	May 2006 ²⁴	Senior author*
4	Borland 2003 ⁵²	Emmons 2005 ⁵³ references
5	Lando 1997 ³⁷	Solomon 2000 ⁴⁰ references
6	Orleans 1991 ⁴⁵	Park 2008 ²⁰ references
7	West 1998 ³⁰	Carr 2011 ⁵⁴ references
8	Woodruff 2002 ⁴¹	Carr 2011 ⁵⁴ references
9	Zhu 1996 ⁴²	Solomon 2000 ⁴⁰ references
10	Zhu 2002 ⁴³	Emmons 2005 ⁵³ references
11	Solomon 2005 ⁴⁴	Senior author*
12	White 2020 ²³	PubMed search and senior author*
13	Solomon 2000A ³⁹	PubMed search
14	Solomon 2000B ⁴⁰	Senior author*
15	Gruder 1993 ²⁵	Park 2008 ²⁰ references
16	Malchodi 2003 ³⁸	PubMed search

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Appendix 7. Key differences between Faseru (2018) and Yuan (2022)

1. From Gruder et al. (1993), Faseru extracted different denominators for the intervention and control arms at the 6-month follow-up because they included participants who were known to have never started treatment, resulting in a significantly lower estimate.^{19,25} Since Gruder et.al. reported a significant number of participants who did not receive any part of the peer support intervention, we used the figure of participants who were exposed to the intervention in spite of the intention-to-treat principle to obtain a more accurate estimate of the true effect size.
2. From Gruder et al. (1993), Faseru used results from different timepoints.
3. In Orleans and Schoenbach (1991), we differed from Faseru by comparing two different arms of the three because Orleans' description of telephone counseling fit our peer support definition while those allocated to the so-called "social support" arm were merely requested to find a peer, which also violated our assumptions by not precluding spouses and partners.^{19,45}
4. In Orleans and Schoenbach (1991), Faseru used 7-day point-prevalence abstinence outcomes whereas we use the longer 30-day abstinence outcomes.¹⁹

Supplementary Table 1. Comparison of trials included in prior systematic reviews of peer support and reasons for exclusion from Yuan review

	May 2000 ¹⁷	Park 2004 ¹⁵	Park 2008 ²⁰	Ford 2013 ⁵²	Faseru 2018 ¹⁹	Yuan (under review)	Reason for exclusion
Albrecht 1998	Yes			Yes			Smokers are non-adults
Bastian 2012					Yes		Control group also received peer support
Borland 2003						Yes	N/A
Ginsberg 1992	Yes	Yes	Yes		Yes		Peer definition includes spouses and partners
Glasgow 1986	Yes	Yes	Yes		Yes		Peer definition includes spouses and partners
Gruder 1993	Yes	Yes	Yes		Yes	Yes	N/A
Hennrikus 2010				Yes			Comparison of intervention for peer supporters not smokers; both groups received peer support; smokers were all pregnant women
LaChance 2015					Yes		Peer definition includes spouses and partners
Lando 1997						Yes	N/A
Malchodi 2003						Yes	N/A
Malott 1984	Yes	Yes	Yes		Yes	Yes	N/A
May 2006			Yes		Yes	Yes	N/A
McBride 2004			Yes	Yes	Yes		Peer definition includes spouses and partners
McIntyre-Kingsolver 1986	Yes	Yes	Yes		Yes		Peer definition includes spouses and partners
Mermelstein 1986	Yes						Peer definition includes spouses and partners
Nichter 2016					Yes		Peer definition includes family members
Nyborg 1986a	Yes	Yes	Yes		Yes		Peer definition includes spouses and partners
Nyborg 1986b		Yes	Yes		Yes		Peer definition includes spouses and partners
Orleans 1991	Yes	Yes	Yes		Yes	Yes	N/A
Patten 2009					Yes		Intervention is for peer supporters
Patten 2012					Yes		Peer definition includes family members
Powell 1981		Yes	Yes			Yes	N/A
Solomon 2000a				Yes		Yes	N/A
Solomon 2000b				Yes		Yes	N/A
Solomon 2005				Yes		Yes	N/A
West 1998	Yes			Yes		Yes	N/A
White 2020						Yes	N/A
Williams 2011				Yes			Not an RCT
Woodruff 2002						Yes	N/A
Zhu 1996						Yes	N/A
Zhu 2002						Yes	N/A