

Table S1. Characteristics of the included studies on relapse prevention

Study	Intervention	Country	Setting	Participants ^{a)}	Details of the intervention	Details of the control	Prior abstinence	Abstinence verification method
Blyth et al., 2015 [1]	Behavioral	England	Hospital/clinic	1,404 (702/702)	Booklet (Forever Free)	Booklet (Learning to Stay Stopped)	4 wk	CO, self-report
Borland et al., 2004 [2]	Behavioral	Australia	Community (Quitline)	286 (139/147)	• Self-material (Quit pack) • Mailed tailored letter	Self-material (Quit pack)	24 h	Self-report
Brandon et al., 2000 [3]	Behavioral	USA	Community (hotline)	584 (449/135)	Factorial design • Mailing only • Hot line only • Combined mailings and hot line	Minimum-contact control condition	1 wk	CO, self-report
Brandon et al., 2004 [4]	Behavioral	USA	Community (newspaper, radio stories, advertisement)	431 (320/111)	Factorial design • Mail (1 mailing vs. 8 mailings) • Mailing (1 booklet vs. 8 booklets)	Minimum-contact control condition (low contact-low content)	1 wk	CO, self-report
Brandon et al., 2012 [5]	Behavioral	USA	Community (purchase telephone number)	700 (343/357)	Booklet (Forever Free for Baby and Me)	Usual care • Booklet (Clearing the Air) • Pamphlets (Living Smoke-free for You and Your Baby)	1 wk	CO, COT, self-report
Brandstein, 2011 [6]	Behavioral	USA	Hospital/clinic	126 (64/62)	• Respiratory therapists • Educational materials • Helpline • Nicotine patches	• Respiratory therapists • Educational materials • Recommended helpline	24 h	COT in saliva, self-report
Campos et al., 2018 [7]	Behavioral	Brazil	Hospital/clinic	85 (43/42)	InInterV group • Intensive intervention (10-min oral intervention) • Presentation of an educational video (30-min)	Brinter group • Ordinary session (lasting 10-min)	48 h	CO, self-report
Cheung et al., 2015 [8]	Behavioral	Hong Kong	Hospital/clinic	136 (82/54)	• WhatsApp/Facebook • Self-help booklet (22-page)	• Self-help booklet	1 wk	CO, COT, self-report
Covey et al., 2007 [9]	Pharmacotherapy	USA	Community (advertisement)	289 (218/71)	• Bupropion (300 mg/d) • Nicotine gum (2 mg) • Bupropion+placebo gum • Nicotine gum+placebo pill	• Placebo pill+placebo gum	4 wk (OLT)	CO, self-report

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Study	Intervention	Country	Setting	Participants ^{a)}	Details of the intervention	Details of the control	Prior abstinence	Abstinence verification method
Croghan et al., 2007 [10]	Pharmacotherapy	USA	Community (advertisement)	405 (248/157)	<ul style="list-style-type: none"> Nicotine inhaler Bupropion Nicotine inhaler+placebo bupropion Placebo inhaler+bupropion Nicotine inhaler+bupropion 	<ul style="list-style-type: none"> Placebo inhaler Placebo Placebo+placebo bupropion 	Unclear	CO, self-report
Cummins et al., 2016 [11]	Behavioral & pharmacotherapy	USA	Hospital/clinic	1,270 (954/316)	<ul style="list-style-type: none"> Factorial design Nicotine patch Nicotine patches (8 wk) +proactive telephone counseling Telephone counseling (Quitline) Booklet Counseling (2-min discussion) 	<ul style="list-style-type: none"> Usual care 	24 h	COT in saliva, self-report
Ershoff et al., 1995 [12]	Behavioral	USA	Prenatal clinic	171 (87/84)	<ul style="list-style-type: none"> Booklet Counseling 	<ul style="list-style-type: none"> Tip-sheet (one-page) 	1 mo	COT in urine
Evins et al., 2014 [13]	Pharmacotherapy	USA	Community	87 (40/47)	<ul style="list-style-type: none"> Cognitive behavioral therapy Varenicline (1 mg, 2/d) 	<ul style="list-style-type: none"> Placebo 	2 wk	CO, self-report
Fortmann and Killen 1995 [14]	Behavioral & pharmacotherapy	USA	Community	1,044 (783/261)	<ul style="list-style-type: none"> Nicotine gum (2 mg/h with a minimum of 10 pieces/d) Two-phase self-help materials Nicotine gum+materials 	<ul style="list-style-type: none"> Incentive only 	24 h	CO, COT in saliva, self-report
Hajek et al., 2001 [15]	Behavioral	England	Hospital/clinic	249 (114/135)	<ul style="list-style-type: none"> Booklet (Choice is yours) 	<ul style="list-style-type: none"> Usual care (midwives) 	3 mo	CO, self-report
Hajek et al., 2002 [16]	Behavioral	England	Prenatal clinic	505 (254/251)	<ul style="list-style-type: none"> Booklet and quiz (20–30 min) Motivation reminder and stickers Mutual support 'buddy' 	<ul style="list-style-type: none"> Verbal advice Booklet (Smoking and Your Heart) 	Unclear	CO, COT in saliva, self-report
Hannover et al., 2009 [17]	Behavioral	Germany	Prenatal clinic	644 (299/345)	<ul style="list-style-type: none"> Telephone booster sessions and counseling Motivational interviewing 	<ul style="list-style-type: none"> Usual care 	4 wk	Self-report

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Study	Intervention	Country	Setting	Participants ^{a)}	Details of the intervention	Details of the control	Prior abstinence	Abstinence verification method
Hayes et al., 2018 [18]	Behavioral	USA	Community (Quitline)	577 (286/291)	<ul style="list-style-type: none"> • Self-help parenting program: Smoke-free Kids • Mailing (Booster materials) 	<ul style="list-style-type: none"> • No treatment 	24 h	Self-report
Hays et al., 2001 [19]	Pharmacotherapy	USA	Community (advertisement)	429 (214/215)	<ul style="list-style-type: none"> • Bupropion (150 mg/d for 3 days and 150 mg 2/d) 	<ul style="list-style-type: none"> • Placebo 	Unclear	CO, self-report
Hays et al., 2009 [20]	Pharmacotherapy	USA	Community (advertisement)	110 (56/54)	<ul style="list-style-type: none"> • Bupropion (300 mg/d for 6 mo) 	<ul style="list-style-type: none"> • Placebo 	1 wk	CO, self-report
Hurt et al., 2003 [21]	Pharmacotherapy	USA	Hospital/clinic	176 (88/88)	<ul style="list-style-type: none"> • Bupropion (300 mg/d for 6 mo) 	<ul style="list-style-type: none"> • Placebo 	Unclear	CO, self-report
Lowe et al., 1997 [22]	Behavioral	USA	Prenatal clinic	78 (40/38)	<ul style="list-style-type: none"> • Counseling (10-min) • Discussion and facilitation (stay quit buddy) • Clinic reinforcement by the prenatal staff 	<ul style="list-style-type: none"> • Usual care (prenatal including nurses' advice) 	3 mo	COT in thiocyanate
McBride et al., 1999 [23]	Behavioral	USA	Prenatal clinic	459 (303/156)	<ul style="list-style-type: none"> • Prepartum group: booklet (Stop Now for Your Baby)+intervention (personalized letter, telephone counseling, newsletters) • Pre/post group: booklet (Balancing Act)+intervention (personalized letter, telephone counseling) 	<ul style="list-style-type: none"> • Booklet only group (Stop Now for Your Baby) 	Unclear	COT in saliva, self-report
McBride et al., 2004 [24]	Behavioral	USA	Prenatal clinic	316 (209/107)	<ul style="list-style-type: none"> • Women only (WO): relapse-prevention kit (a booklet and gift items), 6 counseling calls • Partner-assisted (PA): WO intervention, PA adjunct 	<ul style="list-style-type: none"> • Usual care: prenatal visit and mailing (American Cancer Society's self-help guide) 	1 wk	COT in saliva, self-report
McDaniel et al., 2015 [25]	Behavioral	USA	Community (Quit For Life)	898 (602/296)	<ul style="list-style-type: none"> • Quit For Life-10 • Quit For Life-20 	<ul style="list-style-type: none"> • Usual care 	24 h	Self-report
McNaughton et al., 2013 [26]	Behavioral	Canada	Community (advertisement)	44 (23/21)	<ul style="list-style-type: none"> • Interactive voice response 	<ul style="list-style-type: none"> • No treatment 	Unclear	CO, self-report

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Study	Intervention	Country	Setting	Participants ^{a)}	Details of the intervention	Details of the control	Prior abstinence	Abstinence verification method
Mermelstein et al., 2003 [27]	Behavioral	USA	Community (advertisement)	341 (176/165)	<ul style="list-style-type: none"> Enhanced content Telephone counseling Group sessions 	<ul style="list-style-type: none"> Basic content Primarily of support 	Unclear	CO, COT in saliva, self-report
Morasco et al., 2006 [28]	Behavioral	USA	Prenatal clinic	33 (14/19)	<ul style="list-style-type: none"> Psychotherapy session (one 90-min) Telephone counseling 	<ul style="list-style-type: none"> Usual care 	1 wk	CO
Pollak et al., 2016 [29]	Behavioral	USA	Prenatal clinic	382 (188/194)	<ul style="list-style-type: none"> Lower risk: 1 in-person session and 1 phone call during the third trimester of pregnancy, 7 calls postpartum Higher risk: 1 in-person session and 2 calls during the third trimester of pregnancy, 11 calls postpartum 	<ul style="list-style-type: none"> Booklet (Forever Free for Baby and Me) Newsletters 	1 mo	CO, COT
Powell and McCann, 1981 [30]	Behavioral	USA	Community (advertisement)	51 (34/17)	<ul style="list-style-type: none"> Introductory meeting and 4 consecutive treatment meetings, introductory booklet (Quitter's Countdown) Support group meetings and telephone contact system 	<ul style="list-style-type: none"> Introductory meeting and four consecutive treatment meetings, introductory booklet (Quitter's Countdown) 	5 d	Self-report
Ratner et al., 2000 [31]	Behavioral	Canada	Prenatal clinic	238 (119/119)	<ul style="list-style-type: none"> Telephone counseling Brief counseling 	<ul style="list-style-type: none"> Usual care 	6 wk	CO, self-report
Razavi et al., 1999 [32]	Behavioral	Belgium	Community (workplace)	256 (135/121)	<ul style="list-style-type: none"> Group counseling 	<ul style="list-style-type: none"> No treatment 	1 mo	CO, COT in urine
Reitzel et al., 2010 [33]	Behavioral	USA	Prenatal clinic	251 (136/115)	<ul style="list-style-type: none"> Brief relapse prevention advice and self-help materials in both groups MAPS: telephone counseling MAPS+: telephone counseling+2 additional in-person counseling sessions 	<ul style="list-style-type: none"> Usual care Brief relapse prevention advice and self-help materials 	Unclear	CO, COT

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Study	Intervention	Country	Setting	Participants ^{a)}	Details of the intervention	Details of the control	Prior abstinence	Abstinence verification method
Ruger et al., 2008 [34]	Behavioral	USA	Prenatal clinic	57 (24/33)	<ul style="list-style-type: none"> • Motivational intervention - Educated clients - Helped clients educate their smoking behavior - Helped increase self-efficacy for smoking cessation and abstinence - Provided information on reducing exposure to tobacco smoke - Provided feedback about household nicotine levels 	<ul style="list-style-type: none"> • Usual care - Standard prenatal care - Up-to-5-minute intervention outlined the harmful effects of smoking - Self-help materials 	Unclear	COT in saliva
Schmitz et al., 1999 [35]	Behavioral	USA	Hospital/clinic	53 (29/24)	<ul style="list-style-type: none"> • Coping skills for relapse prevention 	<ul style="list-style-type: none"> • Health belief model 	Unclear	CO, COT in urine
Secker-Walker et al., 1995 [36]	Behavioral	USA	Prenatal clinic	107 (55/52)	<ul style="list-style-type: none"> • Counseling including usual advice and individual advice 	<ul style="list-style-type: none"> • Usual care - Usual advice about smoking or staying abstinent 	Unclear	Self-report, COT/creatinine ratio in urine
Secker-Walker et al., 1998 [37]	Behavioral	USA	Prenatal clinic	92 (44/48)	<ul style="list-style-type: none"> • Counseling from physicians 	<ul style="list-style-type: none"> • Usual care - Recommendation to stay quit during pregnancy, a booklet 	Unclear	Self-report, CO, COT in urine
Segan and Borland, 2011 [38]	Behavioral	Australia	Community (Quitline)	697 (145/553)	<ul style="list-style-type: none"> • Extended callback service 	<ul style="list-style-type: none"> • Usual care - Standard callback service 	1 wk	Self-report
Severson et al., 1997 [39]	Behavioral	USA	Prenatal clinic	1,026 (609/417)	<ul style="list-style-type: none"> • A packet of materials • Brief advice and encouragement at each visit 	<ul style="list-style-type: none"> • Usual care - A packet of materials 	Unclear	Self-report
Smith et al., 2001 [40]	Behavioral	USA	Community (advertisement)	674 (451/223)	<ul style="list-style-type: none"> • Cognitive-behavioral treatment (skill training group counseling, 6 sessions) • MIS therapy (supportive group counseling, 6 sessions) 	<ul style="list-style-type: none"> • No treatment 	1 wk	CO, self-report

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Study	Intervention	Country	Setting	Participants ^{a)}	Details of the intervention	Details of the control	Prior abstinence	Abstinence verification method
Stevens and Hollis, 1989 [41]	Behavioral	USA	Community	587 (389/198)	<ul style="list-style-type: none"> • Skills condition (rehearsal of positive behavioral, cognitive, and social alternatives to smoking) • Discussion condition (maintenance and social support treatment) 	• No treatment	4 d	COT in saliva, COT, self-report
Tonstad et al., 2006 [42]	Pharmacotherapy	USA	Hospital/clinic	1,210 (603/607)	• Varenicline (1 mg 2/d)	• Placebo	1 wk	CO, self-report
Van't Hof et al., 2000 [43]	Behavioral	USA	Prenatal clinic	277 (133/144)	• Counseling including written materials	• Usual care	Unclear	Self-report
Veldheer et al., 2018 [44]	Behavioral	USA	Community	115 (59/56)	• Booklets (Forever Free)	• Booklet (Surgeon General's report)	Unclear	CO, self-report

CO, exhaled carbon monoxide; COT, cotinine; MAPS, Motivation and Problem-Solving; OLT, open-label treatment; MIS, motivational interview/supportive.
^{a)}Number of intervention and control presented.

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