

Table 1: Study characteristics: organised by behavioural target and then by alphabetical order of lead study author

Study ID, additional references, year and country of publication	Study design	Participants randomised <ul style="list-style-type: none"> ▪ N randomised and description ▪ Sex ▪ Age ▪ Reason for description of study population as ‘low income’ 	Intervention description	Control description	Primary outcome	Main outcome time point and follow-up (weeks)
DIET						
Ahluwalia (diet) ³¹ Supplemented by Okuyemi et al. (2007) ³² 2007 USA	cRCT	<ul style="list-style-type: none"> ▪ 173 smokers in a low-income public housing development ▪ 52 m, 121 f ▪ Mean age = 48 (13.1) ▪ 72.9-74.2% had individual income ≤\$800/month 	Motivational interviewing counselling, provision of fruit and vegetables, a cookbook and educational videos	Motivational interviewing for smoking and nicotine gum (see Ahluwalia smoking)	SR Portions of fruit and vegetables per day, last 7 days	6 months
Auslander ³³ 2002 USA	cRCT	<ul style="list-style-type: none"> ▪ 294 low-income overweight African American women ▪ Mean age ranged from 40.2 (8.2) to 41.2 (7.8) ▪ 60-70% below the poverty line (not defined). Mean family income \$1,367.8 ±\$1,047.0 to \$1,619.1 ± \$1,206.7/month 	Culturally-tailored peer-led dietary change program	No intervention until after final follow-up	SR mean % of calories from fat	Posttest: 3 month post baseline 6 month post baseline follow-up

<p>Chang (diet)³⁴ Supplemented by Chang et al. 2009³⁵ 2010 USA</p>	<p>RCT</p>	<ul style="list-style-type: none"> ▪ 129 overweight and obese mothers from WIC sites ▪ Mean age ranged from 25.12 (4.10) - 25.53 (3.94). 18-34. ▪ Income not reported but mothers eligible for the Women, Infants and Children Supplemental Food and Nutrition Program (WIC) so have a household \leq185% of the federal poverty level, which in 2010 was \$3677/month for a family of four* 	<p>DVD, peer support group and telephone calls</p>	<p>Usual care</p>	<p>SR cups of fruit and veg per day</p>	<p>2 month, 8 month 8 month follow-up</p>
<p>Elder³⁶ (2 arms) 2006 USA</p>	<p>RCT</p>	<ul style="list-style-type: none"> ▪ 257 low-income, Spanish-dominant Latina women ▪ Mean age = 39.71 (9.93) ▪ 53% had an individual income <\$2000/month 	<p>Tailored intervention: Tailored mailed materials</p> <p>Promotora intervention: Tailored materials and weekly home visits/telephone support</p>	<p>Non tailored, off the shelf materials</p>	<p>SR Mean grams of fat per day</p>	<p>M2 12 weeks M3 timepoint '6 m post-intervention' M4 timepoint '12m post-intervention'</p>

<p>Emmons (diet)³⁷ 2005 USA</p>	<p>cRCT</p>	<ul style="list-style-type: none"> ▪ 1954 low-income multi-ethnic adults ▪ 747 m, 1469f ▪ Age range 18-75 ▪ Income not reported but all participants lived in neighbourhoods classed as ‘impoverished’ (≥20% live below the federal poverty level) 	<p>Behavioural counselling, telephone support and mailings</p>	<p>Usual care: Not well specified</p>	<p>SR Fruit and veg servings per day</p>	<p>Endpoint</p>
<p>Gans³⁸ (3 arms) 2009 USA</p>	<p>RCT</p>	<ul style="list-style-type: none"> ▪ 1841 low-income ethnically diverse adults ▪ 275 m, 1566 f ▪ Mean age = 40.4 (12.9), 18-52 ▪ 56.4% individual income <\$20,000/year 	<p>Multiple Tailored (MT) intervention: 4 tailored mailed educational packages +a DVD</p> <p>Multiple Re-tailored (MTI) intervention: 4 tailored educational packages based on telephone reassessments + a DVD</p>	<p>Non tailored nutrition information</p>	<p>SR Fruit and veg servings per day</p>	<p>4 month 7 months follow-up</p>

			Single Tailored (ST) intervention: One tailored mailed educational package			
Jackson (diet) ³⁹ 2011 USA	RCT	<ul style="list-style-type: none"> ▪ 321 ethnically diverse low-income pregnant women ▪ Mean age 26.5 (6) ▪ Income not reported, but 85% of women received Medicaid, which in 2011 required pregnant women to have an individual income ≤\$1862/month 	Counselling via a virtual video-doctor	Usual care: prenatal care appointment	SR fruit and vegetable intake per day	4 weeks
Keyserling (diet) ⁴⁰ Supplemented by Jilcott et al. (2006) ⁴¹ 2008 USA	RCT	<ul style="list-style-type: none"> ▪ 236 low-income women from the WISEWOMAN program ▪ Mean age ranged from 52 (0.64) – 54 (0.66). ▪ Eligible for study if at or below 200% of the federal poverty level. 93-96% of participants had household income ≤\$30,000/year 	Counselling	Mailed diet and exercise leaflets	End point data: objectively measured fruit and veg intake, via median serum carotenoids (ug/dL) Follow-up data: fruit and vegetable consumption via Dietary Risk Assessment (score range 0-103,	6 month assessment 12 month assessment

					lower=healthier)	
Nitzke ⁴² Supplemented by Nitzke et al. 2004 ⁴³ 2007 USA	RCT	<ul style="list-style-type: none"> ▪ 2024 low-income young adults ▪ 786 m, 1238 f ▪ Mode age 18. Age range 18-24. ▪ 60% had individual income <\$800/month 	Tailored nutrition materials	Non-tailored materials	SR Fruit and vegetable intake per day	12 months assessment
Parra-Medina ⁴⁴ 2011 USA	RCT	<ul style="list-style-type: none"> ▪ 226 low-income African American women ▪ Aged 35 and over, mode age range 35-49, mean not specified ▪ 50% had annual income <\$20,000 	Stage-matched provider counselling and assisted goal setting plus 12 months of telephone counselling and tailored newsletters	Stage-matched provider counselling and assisted goal setting	SR dietary risk assessment score (rated between 0 and 104, where lower scores equal a lower intake of saturated fat and cholesterol)	12 month assessment
Sanchez-Johnsen ⁴⁵ (diet) 2006 USA	RCT	<ul style="list-style-type: none"> ▪ 27 overweight Latina women ▪ Mean age ranged from 43.2 (6.3) to 44.9 (8.2). 35-65 ▪ 52% family income <\$16,000/year 	Diet classes	Mailed health education	SR fruit and veg servings per day	6 week assessment
Stephoe ⁴⁶ 2003 UK	RCT	<ul style="list-style-type: none"> ▪ 271 adults from deprived areas ▪ Sex not specified ▪ Age range: 18-70 ▪ 68% had an individual income ≤£400 (\$640) /week 	Behavioural counselling sessions, tailored to motivation level	Non-tailored nutrition education counselling	SR fruit and veg servings per day	12 months

Tessaro ⁴⁷ 2007 USA	RCT	<ul style="list-style-type: none"> ▪ 395 low-income women ▪ Mean age 50.25 ▪ 67% household income <\$20,000 /year 	Computer-based interactive nutrition intervention	No intervention: waiting list control	SR fruit and veg servings per day	3 months
PHYSICAL ACTIVITY						
Armitage ²⁵ 2010 UK	RCT	<ul style="list-style-type: none"> ▪ 68 manual workers ▪ 35 m, 33 f ▪ Mean age = 27 (12.71) ▪ Income not reported, though all had manual or clerical job roles 	Volitional help sheet with implementation intentions	Help sheet without implementation intentions	SR metabolic equivalent minutes exercise per week (MET minutes)	1 month
Chang (Physical activity) ³⁴ Supplemented by Chang et al. 2009 ³⁵ 2010 USA	RCT	<i>See Chang (diet) above for description of the study's participants</i>	DVD, peer support group and telephone calls	Usual care	SR metabolic equivalent minutes exercise per week (MET minutes)	2 months 8 month follow-up
Dangour ⁴⁸ Supplemented by Dangour et al. (2007) ⁴⁹ 2011	cRCT	<ul style="list-style-type: none"> ▪ 1897 older adults registered with health centres in low-middle socioeconomic status municipalities ▪ 656 m, 1346 f 	Physical activity program	Educational materials on healthy eating, and information about healthcare	Objectively measured walking capacity: metres walked in six minutes	24 month assessment

Chile		<ul style="list-style-type: none"> ▪ Mean age ranged from 66.1 (0.9) – 66.2 (1.0). 64-67.9 ▪ Income not reported, but all attended health centres where median 9.2% of the population live in poverty (per capita income less than twice the price of a basic basket of food in Chile) 		provision		
Dutton ⁵⁰ 2007 USA	RCT	<ul style="list-style-type: none"> ▪ 158 overweight low-income African American women ▪ Mean age = 41.73 (12.25) ▪ Participants eligible if individual income <\$16,000 /year 	Tailored weight loss intervention	Usual care	SR hours exercise per week	Post-treatment
Emmons ³⁷ (physical activity) 2005 USA	cRCT	<i>See Emmons (diet) above for description of the study's participants</i>	Behavioural counselling and telephone support and mailings	Usual care? Not well specified	Mean hours per week of physical activity	Endpoint
Jackson ³⁹ (Physical activity) 2011 USA	RCT	<i>See Jackson (diet) above for description of the study's participants</i>	Counselling via a virtual video-doctor	Usual care: pre-natal care appointment	SR minutes per week of physical activity	4 weeks
Keyserling ⁴⁰ (Physical activity)	RCT	<i>See Keyserling (diet) above for description of the study's participants</i>	Counselling	Mailed leaflets	Objectively measured PA; accelerometer	6 month assessment

Supplemented by Jilcott et al. (2006) ⁴¹ 2008 USA					moderate minutes per day	12 months follow-up
Marcus ⁵¹ 2013 USA	RCT	<ul style="list-style-type: none"> ▪ 266 inactive Latina women ▪ Mean age 40.67 (9.98) ▪ 54% family income <\$20,000 per year 	Tailored Spanish-language mailings of physical activity and individualised feedback reports	Spanish-language mailings on other healthy-heart behaviours	SR minutes of moderate to vigorous physical activity per week	6 month post-intervention outcome
Olvera ⁵² Supplemented by Olvera et al. (2008) ⁵³ 2010 USA	cRCT	<ul style="list-style-type: none"> ▪ 46 low-income Latina mothers ▪ Mean age ranged from 33.3 (4.6) – 38.2 (10.6) ▪ 76% family income <\$20,000 /year 	Exercise and counselling	Same but 12 not 36 sessions	SR activity level on a scale from 0 (sedentary) to 7 (vigorous)	12 week assessment
Pekmezi ⁵⁴ 2009 USA	RCT	<ul style="list-style-type: none"> ▪ 93 Underactive Latina women ▪ Mean age = 41.37 (11.18), 18-65 ▪ 75% household income <\$30,000 /year 	Tailored monthly mailings on physical activity	6 monthly mailings on other topics	SR minutes physical activity per week	6 months
Sanchez-Johnsen ⁴⁵ (Physical activity) 2006 USA	RCT	<i>See Sanchez-Johnsen (diet) above for description of the study's participants</i>	Exercise classes	Mailed health education	SR times engaged in activity designed to improve fitness on a scale from 1 (0 times) to 9 (more than 7	6 week assessment

					times)	
Whitehead ⁵⁵ 2007 USA	RCT	<ul style="list-style-type: none"> ▪ 206 low-income African Americans ▪ 36 m, 171 f ▪ Average age 50 ▪ 64% household income <\$1000 /month 	Mailed tailored physical activity information	Mailed non tailored information about a low-sodium diet	SR time spent in physical activities for last 7 days, yielding an estimated caloric expenditure	1 month assessment 6 month assessment follow-up
SMOKING						
Ahluwalia ³¹ (Smoking) Supplemented by Okuyemi et al. 2007 ³² 2007 USA	RCT	<ul style="list-style-type: none"> ▪ 173 smokers in a low-income public housing development ▪ 52 m, 121 f ▪ Mean age = 48 (13.1) ▪ 72.9-74.2% had individual income ≤\$800/month 	Motivational interviewing counselling for smoking and nicotine replacement therapy (NRT)	Motivational interviewing counselling, provision of fruit and vegetables, a cookbook and educational videos (see Ahluwalia, diet, above)	Biochemically confirmed smoking abstinence 7 days	6 month assessment
Andrews ⁵⁶ Supplemented by Andrews et al.	RCT	<ul style="list-style-type: none"> ▪ 103 African American women from a subsidised housing development. 	Counselling, NRT and community health worker	Smoking print materials, group education on	Biochemically confirmed smoking abstinence 7 days	6 month assessment

(2005) ⁵⁷ 2007 USA		<ul style="list-style-type: none"> Mean age = 40.2 (11.8), 18-85 Mean household income \$689/month, range \$0 to \$2,300 /month 	sessions	other topics		
Bullock ⁵⁸ 2 arms 2009 USA	RCT	<ul style="list-style-type: none"> 695 women attending Women Infant and Children Nutritional Supplement (WIC) clinic Mean age = 22 (4.6) Income not reported but all women were eligible for WIC program so have household monthly gross income of $\leq 185\%$ of the federal poverty level (see also Chang participant description) 	<p>Social Support (SS) intervention: Telephone calls from a nurse and 24 access through a pager</p> <p>Social Support plus booklets (SS+B) intervention: Same with eight mailed booklets on stopping smoking in pregnancy</p>	<p>Booklets alone (B) control intervention: Eight mailed booklets on stopping smoking in pregnancy</p> <p>Control (C) intervention: no intervention</p>	Biochemically confirmed smoking abstinence last 7 days	<p>End of pregnancy (T2)</p> <p>Post-delivery follow up (T3)</p>
Dornelas ⁵⁹ 2006 USA	RCT	<ul style="list-style-type: none"> 105 pregnant smokers from a non-profit tertiary care community hospital Mean age = 26.1(5.8), 18-42 49% household income of $\leq \\$15,000$/year. 	Counselling session and telephone follow-up	Usual care: standard smoking cessation advice	Biochemically confirmed smoking abstinence for previous 7 days	<p>End of pregnancy assessment</p> <p>Six months post-partum follow-</p>

						up
Fang ⁶⁰ 2006 USA	RCT	<ul style="list-style-type: none"> ▪ 66 low-income Chinese and Korean smokers ▪ 63 m, 3 f ▪ Mean age ranged from 43.97 (17.21) to 48.35 (16.47) ▪ 68% had individual income ≤\$15,000/year 	Motivational interviewing style session + NRT	General health counselling, an educational booklet +NRT	SR smoking abstinence, last 7 days	1 week assessment 1 month and 3 month follow-up
Froelicher ⁶¹ 2010 USA	cRCT	<ul style="list-style-type: none"> ▪ 60 African Americans from a low-income neighbourhood with high health disparities ▪ 17 m, 43 f ▪ Mean age = 46 (10.8) ▪ 55.9-61.5% individual income <\$15,000/year 	Smoking cessation program and tobacco industry and media messages hand-outs	Standard smoking cessation program and written hand-outs	Biochemically confirmed abstinence	6 month assessment 12 months follow-up
Gordon ⁶² 2010 USA	cRCT	<ul style="list-style-type: none"> ▪ 2549 smokers visiting public dental clinics serving people of low-income ▪ 1241 m, 1508 f ▪ Mean age = 40.5 (12.6) ▪ Income not reported but participants at or below 200% of the federal poverty threshold as 	Brief smoking advice	Usual care	SR smoking abstinence for last 6 months	7.5 months end point

		defined by the US Census Bureau 2006-8. This equates to an individual income \leq \$19,600 /year*				
Liles ⁶³ 2009 USA	RCT	<ul style="list-style-type: none"> ▪ 150 low-income mothers who smoke from WIC programme ▪ Mean age 30.1 (7.1) ▪ Income not reported but all eligible for WIC program so have household monthly gross income of \leq185% of the federal poverty level (see also Chang participant description) 	Counselling to decrease second-hand smoke exposure	Not specified	Biochemically confirmed quit for at least 7 days over study period	18 month assessment
Miller ⁶⁴ 2009 Australia	RCT	<ul style="list-style-type: none"> ▪ 1377 disadvantaged smokers ▪ Age not specified ▪ Income not reported but all participants were eligible for an Australian Government concession card, which currently requires an individual income of $<$\$2,072AUS/month (\$1948 US dollars)** 	Availability of a quitline and NRT	Availability of a quitline without NRT	SR smoking abstinence: previous day	3 month assessment 6 months and 12 months follow-up
Okuyemi ⁶⁵	RCT	<ul style="list-style-type: none"> ▪ 430 homeless adult smokers 	Multi session	Standard care of	Biochemically	8 weeks (post-

2013 USA		<ul style="list-style-type: none"> Mean age 44.4 (9.9) 63.5% had a monthly family income <\$400 	motivational interviewing intervention and NRT	one short counselling session and NRT	confirmed smoking abstinence: previous seven days	intervention) 26 weeks (follow-up)
Reitzel ⁶⁶ 2010 USA	RCT	<ul style="list-style-type: none"> 251 low-income pregnant ex-smokers Mean age 24.6 (5.3) 55% household income <\$30,000/year 	Motivation and problem solving intervention	Usual care: self-help materials and guideline-based relapse prevention advice	Biochemically confirmed smoking abstinence following delivery of baby	Follow-up week 26 post-partum
Solomon ⁶⁷ 2000 USA	RCT	<ul style="list-style-type: none"> 214 medicaid-eligible female smokers of childbearing age Mean age 33 (8.5) Mean individual income \$12,802 /year 	3 months of telephone support and NRT	NRT only	Biochemically confirmed smoking abstinence: previous seven days	3 months 6 months follow-up
Solomon ⁶⁸ 2005 USA	RCT	<ul style="list-style-type: none"> 330 low-income women smokers Mean age ranged from 33.7 (8.9) to 34.8 (8.2) Income not reported, but all receiving Medicaid (see Jackson description) or Vermont Health Assistance Plan for low-income Vermonters (not further 	3 months of telephone support for psychosocial issues surrounding quitting and NRT	NRT only	SR smoking abstinence, last 7 days or 30 days	3 months 6 months follow-up

		specified)				
Sykes ⁶⁹ 2001 UK	RCT	<ul style="list-style-type: none"> ▪ 260 adult smokers from a deprived area ▪ 94 m, 166 f ▪ Age not specified ▪ Income not reported, 42% in manual occupation or unemployed and therefore defined as 'low-income' 	Quit for life self-help cognitive behavioural programme	Usual care 'stopping smoking made easier' booklet	Biochemically confirmed smoking abstinence: previous seven days	Follow-up outcome point
Volpp ⁷⁰ 2006 USA	RCT	<ul style="list-style-type: none"> ▪ 179 low-income veteran smokers ▪ 168 m, 10 f ▪ Mean age ranged from 52.7 to 53.1 ▪ 49.7% household income <\$15,000 /year 	Free smoking cessation program +financial incentives for attending class and quitting smoking	The same program without incentives	Biochemically confirmed smoking abstinence: previous seven days	30 day assessment 6 months follow-up
Wu ⁷¹ 2009 USA	RCT	<ul style="list-style-type: none"> ▪ 139 low-income Chinese American smokers ▪ 107 m, 15 f ▪ Mean age ranged from 43.9 (12.1) – 45 (12.8) ▪ 72%-77% individual income <\$20,000 /year 	Motivational interviewing counselling for smoking	General health counselling	Biochemically confirmed quit at follow-up	6 month assessment

Note. RCT=randomised controlled trial. cRCT= cluster randomised controlled trial. SR=self-reported. If a study had multiple arms testing interventions for one behaviour, they are listed under one section in the table. If the study included interventions with the same participants for more than one behaviour, the characteristics for each

intervention are reported separately for the relevant behavioural target *Source: <http://familiesusa.org/product/federal-poverty-guidelines> retrieved 14.06.14 ** Source: <http://www.humanservices.gov.au/customer/enablers/centrelink/low-income-health-care-card/income-test>, retrieved 14.06.14