School for Public Health Research

Systematic review of the effectiveness of interventions targeting specific out-of-home food outlets

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Background

Eating out of the home is associated with increased energy intake and weight gain. Out of home food outlets (OHFOs) are therefore a prime target for intervention.

There is limited evidence on interventions promoting healthier menu offerings in non work-place/institutional OHFOs.

Primary Aim

To identify and critically appraise relevant evidence of impact, effectiveness and cost implications of interventions to promote healthier menu offerings in OHFOs.

Methods

Electronic search of 9 databases (e.g. MEDLINE (Ovid)) for studies published from January 1993 to December 2013.

All primary study designs eligible for inclusion that included a measure of change (pre to post).

Included OHFOs serving ready-to-eat, prepared food for consumption on or off premises. Excluded OHFOs not open to public (e.g. workplaces, educational institutions).

Outcomes could include consumer or retail level data (e.g. dietary fat intake, menu item replacement).

Study quality assessed using Effective Public Health Practice Project Quality Assessment Tool.

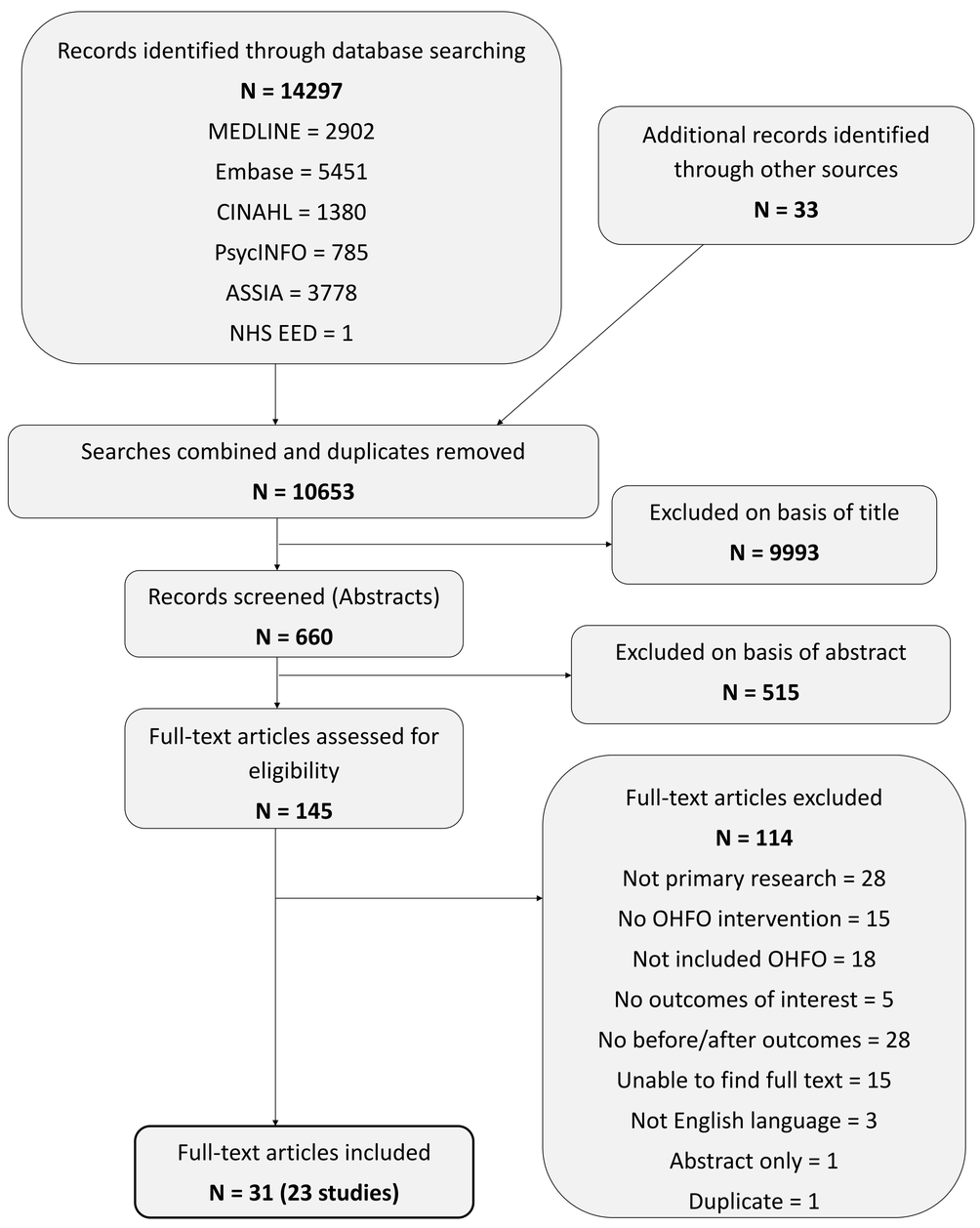

Figure 1 PRISMA Flowchart

Table 1 Results

'Summary impact' assessed by global quality and effectiveness. Effectiveness based on the mean calories purchased (unless otherwise stated) using overall effect for the whole study sample. Key: effective (↑); equally effective/not effective (↔); effectiveness mixed by outcome or gender (↕); not effective (↓) or effectiveness unclear (?); quality score shown in brackets; RCS = Repeat cross-sectional; CON = Control; CBA = Controlled before-after; CCT = Controlled clinical trial.

Study ID	Study design	OHFO type	Summary impact ↓↑↔↕?
Nutrient labelling legislation			
Bollinger 2011	RCS + CON + subgroup cohort	Starbucks Cafes (USA)	↑ (strong)
Bruemmer 2012	Cohort	Chain restaurants >4 outlets (USA)	↑ (weak) energy content main meal
Dumanovsky 2011	RCS	11 fast-food chains (USA)	↓ (moderate)
Elbel 2009	RCS + CON	Chain restaurants >15 outlets (USA)	↔ (moderate) adult + child
Finkelstein 2011	RCS + CON	Mexican fast-food chain (USA)	↔ (moderate)
Krieger 2013	RCS	Restaurants from 10 chains (USA)	↓ (moderate)
Namba 2013	RCS + CON	Large chain fast food restaurants (USA)	↔ (strong) adult + child
Saelens 2012	CBA	Fast food chain restaurants (USA)	↔ (strong) 'healthfulness' adult + child menu
Tandon 2011	CBA	Chain restaurants (USA)	↔ (weak) children
Trans fat legislation			
Angell 2012	RCS	11 fast-food chains (USA)	↑ (moderate)
Voluntary nutrient labelling			
Downs 2013	CCT	2 McDonalds stores (USA)	↔ (moderate)
Eldridge 1997	RCS	Department store chain food area (USA)	? (weak) sales of 'healthier' food items
Pulos 2010	RCS	Locally owned restaurants (USA)	↑ (weak)
Multicomponent multilevel health promotion			
Acharya 2006	RCS + CON	Chain restaurants (USA)	↑ (moderate) healthy food purchases
Fitzgerald 2004	RCS	Community restaurants (USA)	↓ (weak) sales of 'heart healthy' menu items
Hanni 2009	Cohort	Non-chain Mexican fast food (USA)	? (weak) promoting 'healthier' food items
Lee-Kwan 2013	CCT	Non-franchised local takeaway outlets (USA)	↑ (moderate) healthy food purchases
Nothwehr 2013	RCS	Non-chain restaurants (USA)	↓ (weak) healthy food purchases
Pandya 2013	RCS	Non-chain Latino restaurants (USA)	↓ (weak) healthy food purchases
Personalised receipts			
Bedard 2013	RCS + CON	Burgerville (fast-food chain) (USA)	↔ (weak)
Price promotion of healthier foods			
Horgen 2002	CCT	Delicatessen-style cafeteria (USA)	? healthy food purchase (weak)
Telemarketing of healthy food choices			
Licata 2002	RCS + subgroup cohort	Restaurants and cafés (AUS)	↓ (weak) nutrition health promotion
Wiggers 2001	RCS + subgroup cohort	Licenced hotels, clubs and nightclubs (AUS)	↑ (weak) serving healthier food options

Conclusions

Twenty-three studies were included. Evidence was mainly derived from cross-sectional data in US fast-food chains and concentrated on adults with scarce child data available.

No cost-effectiveness evidence was identified.

Calorie labelling legislation does not appear to reduce calories purchased across all fast-food chain restaurants but may reduce calories purchased in specific chains and in a subgroup of adults who notice and use the labels.

Multicomponent multilevel health promotion interventions may increase healthy food purchases, but the evidence is limited to specific restaurants which limits generalisability.

There does not appear to be any differential effect of calorie labelling legislation by age, gender, ethnicity, or socioeconomic status. Interventions to promote healthy food choices by modifying food practices do not appear to increase inequalities.

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