

Very brief interventions to increase physical activity

A systematic review of reviews

Laura Lamming
Behavioural Science Group,
The Primary Care Unit, University of Cambridge, UK.

Dan Mason, Ed Wilson, Vijay GC, Stephen Sutton, Wendy Hardeman
and on behalf of VBI Programme Team

Background

- Low levels of physical activity are associated with significant disease burden.(1)
- Primary care providers have access to large proportion of public BUT have time constraints.
- PA interventions may be easier to integrate into primary care (e.g. NHS Health Checks) if they were very brief.



- Evidence for very brief interventions (VBIs) to increase physical activity has not been reviewed.

1 – Lee, I., Shiroma, E. J., et al. (2012). “Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy.” *The Lancet* 380 (9838): 219-229.

Background: focusing the review

1. What is a very brief intervention? (Undefined in PA literature)

“delivered face-to-face, preferably in a single session lasting no more than 10 minutes, but possibly also multiple brief sessions and/or distance contacts such as leaflets or telephone calls”

2. How can we find very brief interventions?

- No formal definition – potentially difficult to search for primary studies.
- Multiple reviews of PA interventions – review of reviews.

Objective of the systematic review

To summarise what is known about very brief interventions to increase physical activity that could be delivered face-to-face in a primary care or community setting.

Methods

Inclusion criteria

Review Level:

- Review of physical activity interventions only (single risk factor)
- Systematic review/Meta-analysis
- Adults
- Not PA rehabilitation



VBI study level:

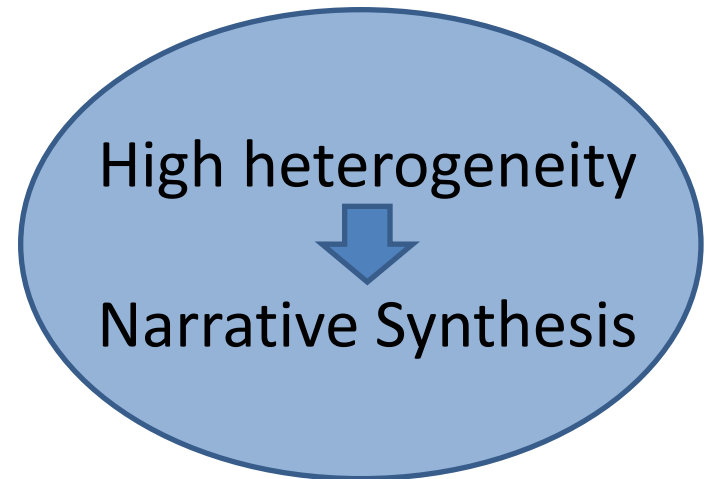
- Individual level
- Face-to-face component
- Less than 10 minutes
- Physical activity outcome

Data extraction

- Standardized proforma.
- Double checked by second researcher.

At the VBI study level (data taken from review):

- 1) Study details.**
- 2) Intervention characteristics.**
- 3) Effect on physical activity.**
- 4) Resource use.**



Methods: Search strategy

Search strategy

Key terms:

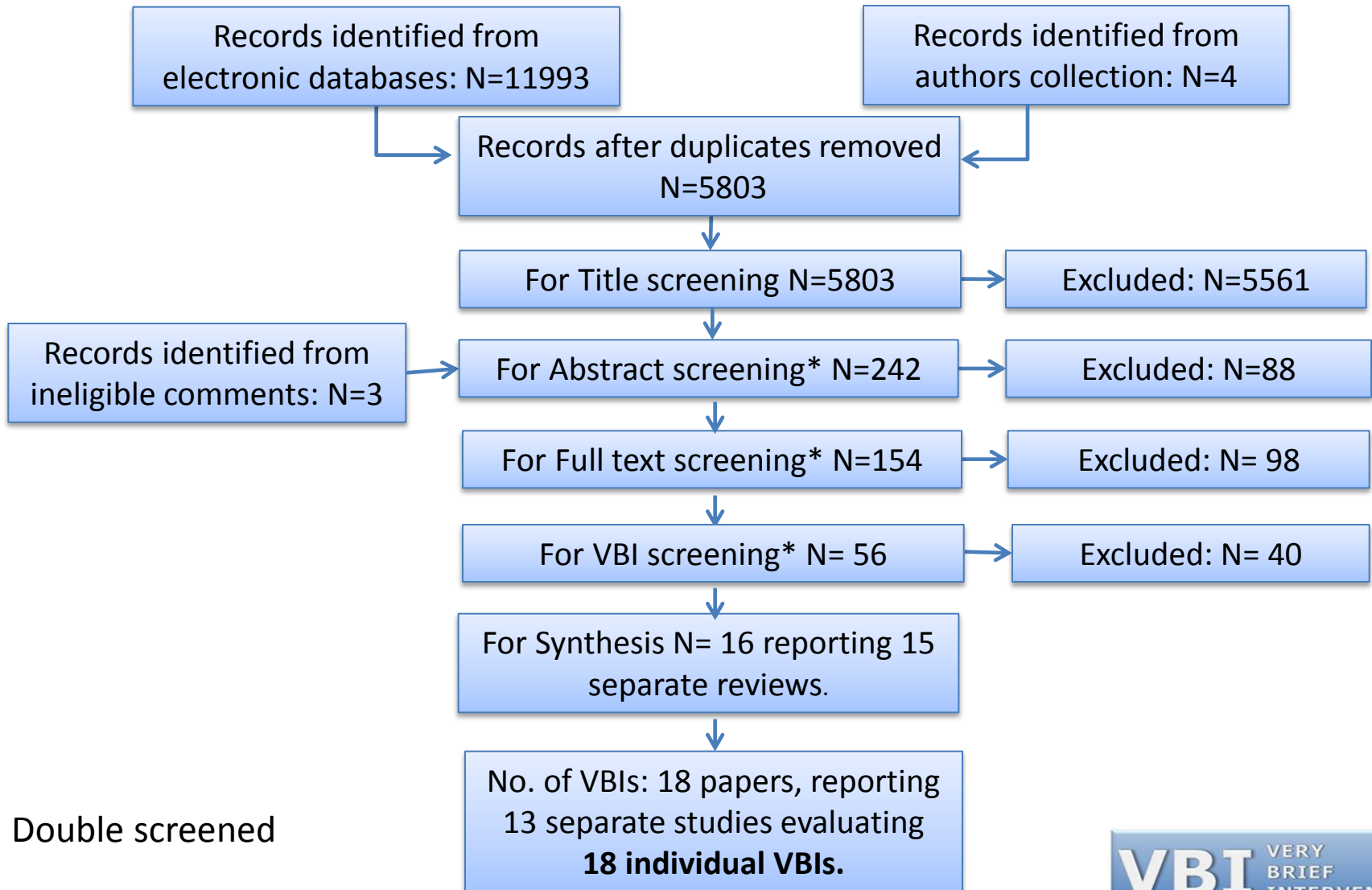
“physical activity”, “exercise”,
“increase”, “brief intervention”,
“counselling”, “systematic
review”, “meta analysis”.

Period covered: 1854 - October
2011.

Databases

- CINAHL
- Cochrane Database of Systematic Reviews
- Database of Abstracts of Reviews of Effects (DARE) on Cochrane Library and Centre for Reviews and Dissemination (CRD)
- Health Technology Assessment database on Cochrane Library and Centre for Reviews and Dissemination (CRD)
- Embase
- MEDLINE
- PsycINFO
- SCI-Expanded
- SSCI SIGN
- Hand search of first authors'(LL) personal collections of articles

Results: Study selection



Results: Preliminary synthesis

Design and methods

Characteristics of VBIs (13 studies)	Summary of results		
Country	8 USA 1 UK	1 NZ 1 Australia	1 Netherlands 1 Unreported
Design	8/13 Randomised		
Setting	12 / 13 Primary care settings		
Providers	11 / 13 - GPs/Physicians/Family physicians/Primary care providers		
Population age	4/13 \geq 'middle aged'		
Sample size	Range = 63 – 874	Median ~ 325	
Comparison	5 Usual care 5 Intervention	2 Not reported 1 Usual care + Intervention	
Follow up	Median = 5 months. 8/13 reported ST follow up only (\leq 6 months).		
PA measures	3/13 Objective measures	12/13 Self report measures	

Preliminary synthesis

Intervention characteristics

Characteristics of VBIs (18 VBIs)	Summary of results
Mode(s) of delivery	18 / 18 - Individual face to face verbal 13 / 18 - Written materials 8 / 18 - Phone calls 4 / 18 - Computer
Content	18 Advice/counselling on increasing PA, sometimes stage based or tailored ; at least 2 based on pre-assessment. 13 Exercise prescriptions/educational materials/tip sheets or posters/stage based or tailored materials. 8 'Booster' calls/exercise counselling calls/follow ups
Duration	Range = 2-10 minutes. Mode = 5 minutes.

Effect	VBI content	Sample	Control	Follow up	Measure
Reports at least 1 positive effect of a VBI	Advice. Phone advice.	100	Int	3/6 mos	SR+Obj
	Assessment. Counselling, stage of change tailored goal setting, stage of change tailored written advice/tips. Booster phone call. (3 studies)	255, 271.*	Usual care**	4-6 wks*	SR+Obj*
	Advice, educational hand-out. Review phone call.	383	Usual care	1 mo/6 wks	SR
	Assessment. Advice, written goal oriented prescription. Phone call.	491	Int	6 wks	SR
	Counselling. Mailed standard/ tailored pamphlet.	763	Usual care	1/6 mos	SR
No effect of a VBI	Computer delivered PACE+ counselling. +/- Booster mailings, phone calls.	173	Int	1 wk, 4 mos	SR
	Stage based/non stage based advice and materials, leisure pass.	294	Int+Usual care	3, 12 mos	SR
	Assessment. Stage specific advice, benefits, self-efficacy barriers, referral to community resources, prescription, manual. Follow up visit. (2 studies)	355, 63.	Usual care	6 wks, 8 mos	SR
	Advice and encouragement. +/- Booster phone call.	358	Int	8 wks, 6, 12 mos	SR
	Assessment. Advice on national guidelines, referral to health educator for clarification and materials.	874	Int	6, 12, 24 mos	SR+Obj

* = per study that did not report detail.

Preliminary conclusions

- Very few VBIs.
- Content and delivery poorly specified.
- Impact of quality on effectiveness?
- Conflicting findings - no observable pattern between intervention design and effectiveness.

Recommendations:

- Comprehensive reporting of intervention characteristics.
- More robust evaluations of VBIs.

Limitations & Next steps

- Review of reviews – could have missed some VBIs.
- Data extraction at the level of the review, not primary studies – more detail? ‘real’ VBIs?

Next...

- Finish data extraction & double check
- Synthesise data & double check

Thanks & Questions?

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Katie Morton

Sally Pears

Isla Kuhn (Librarian)

Author: ll356@medschl.cam.ac.uk

VBI programme: VBI@medschl.cam.ac.uk

VBI webpage: <http://bitly.com/vbi-programme>

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