PROSPERO International prospective register of systematic reviews

A systematic review of interventions in older age for increasing the uptake and maintenance of healthy behaviours that may impact on successful ageing

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Review question(s)

What interventions in people in older age (55+ years) are effective for increasing the uptake and maintenance of healthy behaviours that may impact on healthy ageing?

Searches

A structured search strategy was developed using a wide range of search terms covering the following concepts and domains: ageing and older people; health behaviours and risk reduction relating to diet, physical activity, inactivity, alcohol, smoking; risk reduction relating to loneliness and isolation (i.e. leisure, social activities, participation), sun exposure, hearing and vision, dental health.

Databases searched include: MEDLINE, EMBASE, PsycINFO, CINAHL, Social Science Index, Cochrane Central Register of Controlled Trials (CENTRAL), The Cochrane Collaboration and Database of Systematic Reviews, Database of Abstracts of Reviews of Effectivs (DARE), HTA and York CRD databases. Relevant websites will be searched for grey literature (e.g. NHS Evidence, WHO, Open Grey, etc.). On going clinical trials registers to be searched to identify trials in progress. Finally, experts in the field will be consulted to identify any further potentially relevant papers.

As initial searches suggested a large volume of search hits, searching was conducted in two stages:

1) searching for systematic reviews in older age using a systematic review filter;

2) searching for published and ongoing primary studies in older age.

Systematic reviews and primary studies published from year 2000 onwards and published in English will be included. However, studies will not be excluded at the title/abstract screening stage on the basis of language so that the number of studies excluded on the basis of language can be measured and reported.

Only studies and systematic reviews that have aimed to include people in older age (55 years and over) living in the community will be included.

Types of study to be included

All types of intervention studies will be eligible for inclusion. Study types would include: randomised controlled trials (RCTs); controlled clinical trials (CCTs); controlled before and after studies (CBAs); interrupted time series (ITS) and systematic reviews or grey literature including such intervention studies.

Condition or domain being studied

Review of evidence of effectiveness of interventions in older age (55+ years) for increasing the uptake and maintenance of modifiable healthy behaviours (that may impact on successful ageing). Modifiable behaviours include (but not exclusively): diet, physical activity, inactivity, alcohol, smoking, cognitive activity, participation, risk reduction relating to loneliness and isolation (i.e. leisure, social activities), sun exposure, hearing and vision, dental

health.

Participants/ population

Participants will be people aged 55 and over, living in the community, and would include:

1) Healthy participants;

2) People with pre-conditions for later ill health such as high blood pressure, high cholesterol, overweight or obesity, impaired cognitive function, mood disorders, functional limitations, impaired glucose tolerance (not limited to these conditions);

3) People on medication as long as the medication did not limit their ability to fully take part in the health behaviour intervention of interest or directly affect the outcomes, or measurement of the data;

4) People from disadvantaged populations or minority groups, relating to health inequalities and vulnerable communities. Disadvantaged populations and minority groups will include (but is not limited to) low socioeconomic status, ethnic minority groups, LGBT groups, travellers and other groups with protected characteristics under the equality and diversity legislation.

Studies focused on people with previous ill health e.g. mild stroke, coronary heart disease, asthma (not limited to these conditions), will be excluded.

Intervention(s), exposure(s)

Interventions targeting the following behaviours will be included:

1) Increase/maintain levels of physical activity or decrease sedentary lifestyles or maintain balance, strength and weight-bearing functions;

2) Improve/maintain good diet and nutrition (including components of diet e.g. fat intake, fruit and vegetable intake).

3) Reduce/prevent/stop tobacco consumption;

4) Decrease/ prevent excessive alcohol consumption;

5) Maintain/increase cognitive, leisure and social activities, and participation;

6) Maintain hearing and vision;

7) Prevent excessive sun exposure or increase sun exposure in those with inadequate exposure;

8) Promote/improve dental health;

9) Improve/modify multiple behavioural risk factors;

10) Remove barriers/facilitate uptake and maintenance of any unhealthy/healthy behaviours with demonstration of impact;

Interventions delivered in the following settings and using the following mode of delivery will be included:

1) Community settings (including, but not limited to, home, workplace, community and day centres, sheltered housing, primary care);

2) Interventions at individual, family, community, subnational or national level;

3) Interventions in the private, public, voluntary or commercial sectors;

4) Interventions delivered by healthcare professionals, lay people, home carers, researchers, media, Internet;

5) Only interventions conducted in the countries of the Organisation for Economic Co-operation and Development (OECD) will be included.

Interventions in the following areas will be excluded:

1) Use of prescription drugs/medication (except for medication available 'over the counter' such as nicotine patches or gum for smoking cessation);

2) Use of dietary supplements;

3) Management of existing disability, dementia, frailty and common non-communicable chronic disease;

4) Management of obesity, including medical and surgical interventions for obesity;

5) National policies, laws and taxation;

6) Screening;

7) Vaccination.

There will be no lower time limit for duration of intervention and follow-up.

Comparator(s)/ control

Any comparator or no comparator.

Context

Defined as above.

Outcome(s)

Primary outcomes

Primary quantitative outcomes from intervention studies will be measures of effectiveness in older age (55 and over years) relating to:

1) Uptake or maintenance or change in healthy behaviours, e.g. rates of smoking cessation, physical activity uptake, participation or amount, change in diet or components of diet, such as increase in fruit and vegetable intake.

2) Delivery/design of interventions e.g. setting, mode of delivery, personnel (e.g. lay, healthcare professionals).

Secondary outcomes

1) Adverse effects;

2) Quantitative or qualitative data about implementation issues relating to the specific interventions included in the review.

Data extraction, (selection and coding)

Titles and/or abstracts will be screened independently by two reviewers using a decision form based on the inclusion criteria detailed in the review protocol. Differences between reviewers' results will be resolved by discussion and when necessary in consultation with a third reviewer. If after discussion, there is still doubt about the relevance of a study for the review it will be retained.

Full paper copies will be obtained for all reviews and studies identified by the title/abstract screening. A full paper screening tool with inclusion/exclusion criteria as defined in the review protocol will be developed for screening of the full papers. Full paper screening will be conducted independently by two people. Any differences of opinion about inclusion/exclusion will be resolved by discussion between the two reviewers or by consultation with a third reviewer.

Systematic reviews will be selected, quality assessed, and extracted first. Primary studies will then be selected, quality assessed, and extracted to supplement findings from SR (e.g. primary studies published after most recent high quality reviews), and to fill the gaps where no systematic reviews exist (e.g. specific behaviours, disadvantaged populations).

A flow chart will be used to summarise the number of papers included and excluded at each stage of the process. Systematic reviews and primary studies excluded at the full paper screening stage will be listed in the appendix of the review along with the reason for exclusion.

We will extract data on study design; participants; intervention details, setting and delivery; comparators; type of outcome measures reported; outcome measures (measures of uptake and maintenance of healthy behaviour; design/delivery of interventions and quantitative or qualitative data relating to implementation issues, barriers or facilitators) and results. A minimum of 10% of the studies will be fully double extracted (as below for quality assessment).

Risk of bias (quality) assessment

Study designs will be assigned using the methods used by NICE (glossary of study designs; appendix D, NICE methods manual: http://www.nice.org.uk/article/pmg4/chapter/appendix-d-glossary-of-study-designs) and the algorithm for classifying study designs (appendix E, NICE methods manual: http://www.nice.org.uk/article/pmg4/chapter/appendix-e-algorithm-for-classifying-quantitative-experimental-and-observational-study-designs).

Primary studies: When the type of intervention study design has been assigned, studies will be assessed for quality using the methods used by NICE (NICE methods manual appendices E through I: http://www.nice.org.uk/article/pmg4/chapter/1-introduction).

Systematic reviews: The methodological quality of each systematic review will be assessed using the AMSTAR tool (www.Amstar.ca). Each full review will be assessed by one reviewer and checked for accuracy by another. A minimum of 10% of the studies will be fully double assessed. Any discrepancy between reviewers would be resolved by discussion.

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Strategy for data synthesis

Findings will initially be tabulated to map the evidence in terms of study design, participants, intervention, setting and delivery, comparators, outcome measures and effectiveness, firstly for systematic reviews to map the level of evidence, quality and gaps, and then for primary studies.

Findings will be narratively synthesised and presented. Data specific to health inequalities and vulnerable communities will be assessed and findings may be summarised separately if sufficient data is available. Key themes based on analysis of the evidence across each topic area will be synthesised in a narrative format (where sufficient data is available to identify themes). Otherwise, a descriptive approach to the available evidence will be taken.

Evidence from systematic reviews and primary studies will be checked and any overlapping data will be reported to avoid over reporting of effect.

It is envisaged that there will be considerable heterogeneity in the data. However, where it is appropriate to pool data from trials, meta-analysis may be conducted.

Analysis of subgroups or subsets

Analysis will be conducted separately for each type of health behaviour reported.

Disadvantaged and minority groups will be reported and analysed separately, if sufficient data are available.

Dissemination plans

Findings from the review will be published in open access peer review journals. A synthesis paper (probably in the form of a scoping review) will first be prepared, followed by specific in depth reviews of targeted behaviours.

Outputs will be used to develop research activities within the Ageing Well Programme of the NIHR SPHR and CLAHRC EoE; and to inform public health guidance and practices.

Contact details for further information

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Details of any existing review of the same topic by the same authors

Two complementary reviews are being carried in parallel by the review team. One focus on the effectiveness of behavioural interventions in older age for the primary prevention, or delay, of dementia and cognitive decline (See PROSPERO protocol). Another review looks at the issues (barriers and facilitators) that prevent or limit the uptake and maintenance of healthy behaviours in older people (See PROSPERO protocol)

Anticipated or actual start date

30 November 2014

Anticipated completion date

01 December 2015

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Conflicts of interest

None known

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Ongoing

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Stage of review at time of this submission	Started	Completed
Preliminary searches	Yes	No
Piloting of the study selection process	Yes	No
Formal screening of search results against eligibility criteria	Yes	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

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