NIHR | Policy Research Unit Older People and Frailty

How to narrow the gap in disability with a focus on long-term conditions: an evidence synthesis review protocol

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Background

A disability is an impairment of the body or mind that affects how a person interacts with the world around. It is not just a health problem, but a complex phenomenon in that it makes it difficult for an individual to carry out normal daily activities. There are various types of disability including, physical, mental or developmental, and they sometimes be caused by effects of chronic conditions, mental illness or injuries (falls, impacts or accidents). The World Health Organisation describes disability as a condition that causes:[1]

Impairment – a deterioration of the functioning of the body

Activity limitation – difficulty in performing basic activities necessary for independent living at home such as bathing, dressing, cooking, eating or walking

Restrictions in participating in social activities or activities that are not required on a daily basis such as managing personal finances.

People with disability often experience poorer health outcomes, have less access to education and work opportunities, and are more likely to live in poverty than those without a disability. These socioeconomic inequalities in disability are a major public health concern. Men living in the least deprived areas of England can expect to live 18.3 years longer in good health than men living in the most deprived areas. The difference is similar for women living in the least and most deprived areas (18.8 years).[2] Critically, this inequality between the least and most advantaged populations continues to grow.[3] Urgent action is required to close this gap and achieve the five extra years of life in good health set out by the All Party Parliamentary Group on Longevity.[4] This requires evidence about the most effective approaches to increase healthy and disability free life expectancy, and critically, what approaches work best for the most disadvantaged populations. Socio-economic determinants are critical, but long-term health conditions (LTCs) are also believed to be key drivers of disability. A LTC is defined as a disease that cannot be cured, but can be managed or controlled through using medication and/or therapy.[5] Approximately 26 million people in England live with at least one LTC.[6] Problems related to the increase in prevalence of LTCs pose challenges for the healthcare system and society. Many people with LTC are not served well with current, more traditional health service approaches and this results in unnecessary admissions. For example, in England, recent statistics indicate that people with LTC account for 50% of GP appointments, 64% of all hospital outpatient appointments, 70% of all hospital bed days, and 70% of health and care spend.[7]

People in lower socioeconomic status (SES) groups, however experience earlier onset of single and multiple LTCs, and are usually more severe even in conditions where prevalence is lower.[8] A review of evidence from Jagger and colleagues (in preparation) examining the effect of LTCs on disability-free (and total) life expectancy in men and women identified 22 LTCs.

To restrict the scope of this work to the resources available, we will narrow our focus in two ways. First, we will consider three LTCs that are a major source of morbidity and mortality – depression, osteoarthritis (OA), and type 2 diabetes (T2D). Second, our review will focus on interventions recommended in National Institute for Health and Care Excellence (NICE) guidance. NICE recommendations are in widespread use across the NHS, and they are based on robust and transparent evaluation of research evidence.[9] However it is important to acknowledge that for these three conditions, NICE guidance recommends secondary and tertiary prevention interventions.

Rationale

Although evidence for disease-specific pathways in managing symptoms for depression, OA, and T2D exist, we know little about the impact of interventions to address these LTCs on inequalities in disability. In this study, we will look at interventions that support in narrowing the gap in disability between rich and poor, with a focus on these LTCs that contribute to disability. For each of the three selected LTCs, we will identify interventions that are effective in secondary or tertiary prevention, and quantify their impact on the incidence of disability in disadvantaged populations, relative to the better off. This approach will help us to understand which approaches have the greatest potential to narrow the gap in disability, by improving experiences and outcomes amongst the poorest groups.

Aim

This review will identify and examine published evidence of effective interventions that prevent or postpone the development of disability, relating to depression, OA and T2D. The review will be restricted to studies that include a measure of socio-economic status, to allow us to comment on the relative impact amongst different socio-economic groups, and to address the following questions:

- Which interventions are effective at secondary or tertiary prevention of disability for people with key, specified LTCs?
- What is the size of the effect, and how does this vary by socioeconomic group?

Scoping exercise

Initial scoping work included Initial scoping work included a review of NICE guidelines to identify randomised control trials (RCTs) of standard treatments/effective interventions for depression OA,[10] and T2D[11] for different stages of the condition was conducted. A total of 124, 143, and 424 RCTs were identified from the depression, OA, and T2D respectively. None of the studies reported clinical outcomes according to SES characteristics, although some collected SES data at baseline. In addition, a basic search off literature developed in Medline using OA as an example and SES terms, which yielded 130 citations. Medline (Ovid) was selected as the first database to search because it is directly searchable from the National Library of Medicine (NLM) as a subset of PubMed and has the advantage of using the NLM controlled Medical Subject Heading (MeSH) terms.[12] Most of the studies identified by the initial basic search in Medline (130 studies) were excluded because they were observational studies reporting socioeconomic risk factors for OA outcomes. With this in mind, we

plan to locate the highest quality research evidence used to support NICE recommendations on interventions for each condition, and identify data on variation in outcomes by SES.

Methods

Search Strategy

The search strategy will be designed by an experienced information specialist in collaboration with the project team, based on the scoping searches previously run. These searches will incorporate the concepts of each condition AND interventions identified in the relevant NICE guidance AND terms relating to socioeconomic status, adapted from the Prady filter[13] AND a filter[14] to restrict the results to RCTs. The following bibliographic databases will be searched: MEDLINE, Embase, Cochrane, and Scopus. The search results will be restricted to studies published from July 2008 (depression), January 2016 (OA), and July 2015 (T2D) onwards to capture those published since the last NICE update. However, if we do not identify any RCTs that report intervention effectiveness by SES, we will run a search in the relevant databases to identify prospective cohort studies of interventions considered effective and recommended by NICE guidelines for osteoarthritis, stroke and type II diabetes, to identify studies that report effectiveness by SES, and these will also be restricted by date, similar to the RCTs.

Inclusion criteria

The eligibility criteria of the review questions are outlined as follows:

Population: People diagnosed with depression, OA, and T2D, and no age restrictions.

Intervention: Individual or population level intervention, recommended by NICE guidelines that impacts on the development of disability (e.g. education and self-management, non-pharmacological, pharmacological, or surgical intervention).

Outcome measures: Although outcomes will vary by the condition, as a minimum, we will include studies that report equitable clinical outcomes, including the effect size; and a measure of socioeconomic status (SES) available.

Study design: Where available we will include good quality relevant systematic reviews of preventative interventions. Systematic reviews were included if they met at least four of the five mandatory criteria of Database of Abstracts of Reviews of Effects (DARE): (i) inclusion/exclusion criteria was reported relating to the primary studies which addressed the review question; (ii) a search strategy was included that shows evidence of searching in relevant databases and grey literature; (iii) the validity of included studies was adequately assessed; (iv) sufficient detail of the individual studies was presented, and (iv) primary studies were summarised appropriately.[15] In the absence of eligible reviews, we will first consider randomised trials of (secondary and tertiary) preventive interventions, then non-randomised prospective studies and finally prospective cohort studies.

Exclusion criteria

- Studies that report access to services and interventions as an outcome measure
- Abstracts and studies where full texts are not available
- Retrospective cohort studies
- Case studies

Study selection

Phase 1

The titles and abstracts of identified studies will be screened independently by two reviewers using a pre-trialled study selection form based on the inclusion criteria. An independent third reviewer will be contacted in the event there are any disagreements between the reviewers. The studies will be exported from the Endnote library into Rayyan, a web-based software program for managing and screening literature reviews.[16] For non-English studies, we will have the title and abstract translated via Google Translate and if studies are assessed to be eligible where possible these will be translated and included for full text screening.

Phase 2

Full papers of the studies deemed eligible for full text screening will be retrieved. Full texts will be independently screened by two reviewers based on the inclusion criteria. Where possible, we will request the assistance of colleagues with relevant language skills to screen the non-English studies. Any disagreements will be resolved through discussion and a third reviewer will be contacted if they cannot reach consensus. Where appropriate, we will contact the authors of the studies for further information. The screening and selection process will be documented using the guidelines in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement as outlined by Page and colleagues.[17]

Data Extraction

Data extraction form will be developed, piloted, and refined as necessary prior to full data extraction in excel. Authors of studies will be contacted for clarification and missing data, as necessary. Data from studies with multiple publications will be extracted and reported as a single study. To avoid an overlap, or double counting findings from reviews that report the same primary studies, we will use the overall findings and conclusions of the reviews as our main data. We do not plan to extract the data from the primary studies included in the reviews. We plan to extract the following data: population, number of primary studies with relevant interventions, type of intervention, outcomes, SES parameters, and review author's interpretation of findings. Where appropriate, we plan to create citation matrices showing the degree of overlap in the primary studies included in the reviews.

Data synthesis

A narrative report will be produced, mapping and summarising the extracted data around the following: region of study; study design, LTC, intervention type, clinical outcomes and SES parameters. To assess the differential effects of an intervention by SES, where possible we will summarise the significance levels as reported by the authors. We plan to summarise both the short-term and long-term effectiveness of the interventions where possible. Association of SES factors with an outcome will be classified as follows:

- Favours disadvantaged populations – the intervention favoured or improved outcomes for those in the lower SES group
- Favours advantaged populations – the intervention favoured or improved outcomes for those in the higher SES group

- No evidence of differential impact – the intervention had no difference in effectiveness by level of SES

Policy relevance (including audience and required impact)

The audience will include DHSC, and commissioners in primary and social care.

Dissemination plan

An evidence synthesis report will be submitted to DHSC. After further discussion with DHSC, clarifications and additional follow-up work has been agreed the team will consider, where appropriate, alternative outputs and audiences for the findings. We anticipate that we will produce an academic publication for the review, alongside a plain English summary that can be made freely available to researchers and the public.

Proposed timeline

March 2021 to February 2022

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