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## A systematic review on the prevalence of physical activity in informal / unpaid carers in the UK

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A systematic review on the prevalence of physical activity in informal / unpaid carers in the UK

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### Citation

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### Review question

What is the prevalence of physical activity in unpaid / informal carers in the UK?

### Searches

Articles and reports related to the topic of physical activity of carers will be identified through searches using electronic databases. The purpose of the current systematic review is to synthesize all relevant available knowledge. To provide a comprehensive overview of this research topic, all existing literature will be included, e.g. primary research studies, systematic reviews, meta-analyses, letters, guidelines, websites etc. The search will be limited to literature written in English and based on carers in the UK. No date restrictions will be applied.

The following electronic databases will be searched:

1. PubMed
2. SPORTDiscus
3. PsycINFO
4. CINAHL

Additionally, grey literature will be searched in OpenGrey, Google and Google Scholar. In addition, reference lists of all relevant studies, reviews and reports will be searched.

### Types of study to be included

The search will include both quantitative and qualitative studies. There will be no restrictions on study design.

### Condition or domain being studied

Physical activity of carers.

### Participants/population

Eligible participants include:

- i) Carers for individuals suffering from any condition requiring care
- ii) Carers must not be caring for the individual as part of their professional vocation i.e. they will be unpaid family members or friends

iii) Carers can be from any age group (including ageing carers of 65+, working age carers aged 25-65, and young carers <25)

iv) Carers must be based in the UK

### Intervention(s), exposure(s)

Levels of physical activity - all physical activity (both outside of their caring role and/or carried out as part of their caring role) will be included.

### Comparator(s)/control

None

### Context

### Main outcome(s)

The primary outcomes of interest relate to the levels and types of physical activity being achieved by unpaid carers within the UK. It is expected that outcomes will be diverse and context-specific, therefore it is not possible to produce an exhaustive list at the outset. However, examples of primary outcomes may include:

- Measure of time (e.g. minutes / hours) spent on physical activity per time period (e.g. day / week) – either self-reported or objectively measured
- Percentage of carers reporting that they meet UK Government guidelines for physical activity
- Percentage of carers reporting that they achieve their own desired level of physical activity
- Types of physical activity that carers report undertaking

Physical activity has been shown to provide clear health benefits including reduced risk of cardiovascular disease, certain cancers, stress and depression, and improved mental / cognitive health, wellbeing and sleep (Reiner et al., 2013; Warburton et al., 2006). Therefore, knowing the physical activity levels of carers allows researchers to develop targeted interventions to improve the mental and physical wellbeing of this specific population. Furthermore, physical activity per se is now recognised as a health outcome by major funding councils and government organisations.

### \* Measures of effect

Not applicable.

### Additional outcome(s)

Secondary outcomes relate to the level of physical activity desired by carers in the UK. Again, these are expected to be context-specific, but secondary outcomes may include:

- Amount of time (e.g. minutes / hours) that carers would like to spend on physical activity per time period (e.g. day / week)
- Types of physical activity that carers would like to partake in

### \* Measures of effect

Not applicable.

### Data extraction (selection and coding)

Study selection (both at title/abstract and full text screening) will be performed by two reviewers. Any

disagreements will be solved by consensus or by the decision of a third reviewer where necessary. After eliminating the duplicates, an initial screening of titles, abstracts, and summaries (if applicable) will be undertaken to exclude records that clearly do not meet the inclusion criteria. Each record will be classified as 'include' or 'exclude' or 'maybe' with comments to identify relevant and exclude irrelevant literature. The researchers will be inclusive at this stage and, if uncertain about the relevance of a publication or report, it will be left in. The full text will be obtained for all the records that potentially meet the inclusion criteria (based on the title and abstract/summary only). In a second step, all the full text papers will be screened against the inclusion criteria, using a standardized tool. Studies that do not meet the inclusion criteria will be listed with the reasons for exclusion. An adapted PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses) flow-chart of study selection will be included in the review.

Two reviewers will independently extract data from each included study and insert this into the Excel spreadsheet. Disagreements between the reviewers will be resolved by discussion, or by a third reviewer. Study authors will be contacted to resolve any uncertainties. The extraction sheet will include authors, year of study/report, aim/purpose, type of paper (e.g. journal article, annual evaluation report, etc), geographical area, study population (e.g. age of carers and condition of individuals being cared for), sample size, study design, and key findings that relate to the systematic review question. Two reviewers will independently extract data using a structured data extraction form. Disagreements between review authors will be resolved by discussion or a third author.

### Risk of bias (quality) assessment

Two reviewers will independently assess the risk of bias using the Cochrane risk of bias tool, which includes the following domains: random sequence generation, allocation concealment, blinding of outcome assessors, completeness of outcome data, and selective outcome reporting. We also plan to assess the following additional sources of bias: baseline imbalance and inappropriate administration of an intervention as recommended by the Cochrane Handbook for Systematic Reviews of Interventions. Studies will be judged at high risk of bias if there was a high risk of bias for 1 or more key domains and at unclear risk of bias if they had an unclear risk of bias for at least 2 domains. Authors of papers will be contacted if information is missing.

### Strategy for data synthesis

Findings from included studies will be synthesized narratively. The 'Guidance on the Conduct of Narrative Synthesis in Systematic Reviews' will advise the narrative synthesis. A preliminary synthesis will be conducted to develop an initial description of the findings and to organize them so that patterns across records can be identified. Thematic analysis will then be used to analyse the findings. The following five steps of thematic analysis will be followed adopting a recursive process:

- a) Familiarization with the extracted data
- b) Generation of initial codes
- c) Searching for themes
- d) Reviewing themes
- e) Defining and naming themes

Depending on the findings available, the reviewers will aim to provide a flow chart mapping the physical activity of carers. This review will highlight the current and desired levels of physical activity of carers, as well as the need for more high-quality research in this field. The information presented in this review may be considered, in the future, by primary care providers and funding bodies when planning future support for this growing population of carers.

Meta-analysis will be conducted if data is found to be sufficiently homogeneous. We will decide if it is appropriate to pool our measures of effect by assessing if the included studies are similar enough (in terms of their population, intervention characteristics, and reported outcomes) to draw meaningful conclusions. If a meta-analysis of the included studies is indicated, we will assess statistical heterogeneity by visual

inspection of the scatter of effect estimates in the forest plot and by calculating the  $I^2$  statistic, after using the inverse variance method. In the case of a high degree of heterogeneity ( $I^2$  greater than 50%), we will explore possible reasons for variability by conducting subgroup analysis. Where we detect substantial clinical, methodological or statistical heterogeneity across included studies, we will not report pooled results from meta-analyses.

### Analysis of subgroups or subsets

None planned

### Contact details for further information

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### Organisational affiliation of the review

The Open University  
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### Review team members and their organisational affiliations

Dr Joanna Horne. The Open University  
Dr Nichola Kentzer. The Open University  
Dr Lee Smith. Anglia Ruskin University  
Mr Mike Trott. Anglia Ruskin University  
Dr Jitka Vseteckova. The Open University

### Type and method of review

Narrative synthesis, Systematic review

### Anticipated or actual start date

02 March 2020

### Anticipated completion date

30 June 2020

### Funding sources/sponsors

The School of Education, Childhood, Youth and Sport and The School of Health, Wellbeing and Social Care at the Open University funded the time of academic staff to design and conduct this review. No other external funding was received.

### Conflicts of interest

### Language

English

### Country

England

### Stage of review

Review Ongoing

### Subject index terms status

Subject indexing assigned by CRD

### Subject index terms

Caregivers; Exercise; Home Nursing; Humans; Prevalence; United Kingdom

### Date of registration in PROSPERO

28 April 2020

### Date of publication of this version

28 April 2020

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

#### Stage of review at time of this submission

The review has not started

| Stage   | Started | Completed |
|---|---------|-----------|
| Preliminary searches  | No      | No        |
| Piloting of the study selection process                         | No      | No        |
| Formal screening of search results against eligibility criteria | No      | No        |
| Data extraction   | No      | No        |
| Risk of bias (quality) assessment                               | No      | No        |
| Data analysis   | No      | No        |

*The record owner confirms that the information they have supplied for this submission is accurate and complete and they understand that deliberate provision of inaccurate information or omission of data may be construed as scientific misconduct.*

*The record owner confirms that they will update the status of the review when it is completed and will add publication details in due course.*

#### Versions

28 April 2020

#### PROSPERO

This information has been provided by the named contact for this review. CRD has accepted this information in good faith and registered the review in PROSPERO. The registrant confirms that the information supplied for this submission is accurate and complete. CRD bears no responsibility or liability for the content of this registration record, any associated files or external websites.