

## Systematic review

### 1. \* Review title.

Give the title of the review in English

Older Adults' Acceptance of mobile Nutrition and Fitness Apps:A Systematic Mixed Studies Review

### 2. Original language title.

For reviews in languages other than English, give the title in the original language. This will be displayed with the English language title.

### 3. \* Anticipated or actual start date.

Give the date the systematic review started or is expected to start.

01/05/2019

### 4. \* Anticipated completion date.

Give the date by which the review is expected to be completed.

02/12/2021

### 5. \* Stage of review at time of this submission.

Tick the boxes to show which review tasks have been started and which have been completed. Update this field each time any amendments are made to a published record.

**Reviews that have started data extraction (at the time of initial submission) are not eligible for inclusion in PROSPERO.** If there is later evidence that incorrect status and/or completion date has been supplied, the published PROSPERO record will be marked as retracted.

This field uses answers to initial screening questions. It cannot be edited until after registration.

The review has not yet started: No

Review stage	Started	Completed
Preliminary searches	Yes	Yes
Piloting of the study selection process	Yes	Yes
Formal screening of search results against eligibility criteria	Yes	Yes
Data extraction	Yes	Yes
Risk of bias (quality) assessment	Yes	Yes
Data analysis	Yes	Yes

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Provide any other relevant information about the stage of the review here.

#### 6. \* Named contact.

The named contact is the guarantor for the accuracy of the information in the register record. This may be any member of the review team.

Nadja-Raphaela Baer

Email salutation (e.g. "Dr Smith" or "Joanne") for correspondence:

Dr. Baer

#### 7. \* Named contact email.

Give the electronic email address of the named contact.

nadja-raphaela.baer@charite.de

#### 8. Named contact address

Give the full institutional/organisational postal address for the named contact.

Institute of Medical Sociology and Rehabilitation Science, Charité - University Medicine Berlin, Charitéplatz 1,  
10117 Berlin, Germany

#### 9. Named contact phone number.

Give the telephone number for the named contact, including international dialling code.

004930450529118

#### 10. \* Organisational affiliation of the review.

Full title of the organisational affiliations for this review and website address if available. This field may be completed as 'None' if the review is not affiliated to any organisation.

Institute of Medical Sociology and Rehabilitation Science, Charité - University Medicine Berlin

Organisation web address:

<https://medizinsoziologie-reha-wissenschaft.charite.de/en/>

#### 11. \* Review team members and their organisational affiliations.

Give the personal details and the organisational affiliations of each member of the review team. Affiliation refers to groups or organisations to which review team members belong. **NOTE: email and country now MUST be entered for each person, unless you are amending a published record.**

Miss Nadja-Raphaela Baer. Institute of Medical Sociology and Rehabilitation Science, Charité - University Medicine Berlin

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#### 12. \* Funding sources/sponsors.

Details of the individuals, organizations, groups, companies or other legal entities who have funded or sponsored the review.

BMBF

#### Grant number(s)

State the funder, grant or award number and the date of award

#### 13. \* Conflicts of interest.

List actual or perceived conflicts of interest (financial or academic).

None

#### 14. Collaborators.

Give the name and affiliation of any individuals or organisations who are working on the review but who are not listed as review team members. **NOTE: email and country must be completed for each person, unless you are amending a published record.**

#### 15. \* Review question.

State the review question(s) clearly and precisely. It may be appropriate to break very broad questions down into a series of related more specific questions. Questions may be framed or refined using PI(E)COS or similar where relevant.

How far do older adults accept mobile nutrition and fitness apps and what influencing factors and social determinants shape their acceptance?

#### 16. \* Searches.

State the sources that will be searched (e.g. Medline). Give the search dates, and any restrictions (e.g. language or publication date). Do NOT enter the full search strategy (it may be provided as a link or attachment below.)

The databases MEDLINE and Embase were searched in May 2019, followed by a second search in December 2020. In addition, reference lists of included studies were searched by hand. Only original articles published from 2009 onwards that dealt with older adults' acceptance of nutrition and/or fitness apps were included.

#### 17. URL to search strategy.

Upload a file with your search strategy, or an example of a search strategy for a specific database, (including the keywords) in pdf or word format. In doing so you are consenting to the file being made publicly accessible. Or provide a URL or link to the strategy. Do NOT provide links to your search **results**.

[https://www.crd.york.ac.uk/PROSPEROFILES/159409\\_STRATEGY\\_20191121.pdf](https://www.crd.york.ac.uk/PROSPEROFILES/159409_STRATEGY_20191121.pdf)

Alternatively, upload your search strategy to CRD in pdf format. Please note that by doing so you are consenting to the file being made publicly accessible.

Do not make this file publicly available until the review is complete

#### 18. \* Condition or domain being studied.

Give a short description of the disease, condition or healthcare domain being studied in your systematic

review.

Acceptance of nutrition and fitness apps promoting healthy ageing

### 19. \* Participants/population.

Specify the participants or populations being studied in the review. The preferred format includes details of both inclusion and exclusion criteria.

Community-dwelling participants aged 45 years and older were included, while studies on samples of institutionalized and younger people were excluded. Studies focusing on app usage in relation to ill-health were excluded.

### 20. \* Intervention(s), exposure(s).

Give full and clear descriptions or definitions of the interventions or the exposures to be reviewed. The preferred format includes details of both inclusion and exclusion criteria.

This review does not focus on intervention studies. The aim is to examine in how far older adults are "exposed to" nutrition and fitness apps resp. in how far they use and accept such digital tools.

### 21. \* Comparator(s)/control.

Where relevant, give details of the alternatives against which the intervention/exposure will be compared (e.g. another intervention or a non-exposed control group). The preferred format includes details of both inclusion and exclusion criteria.

Not relevant

### 22. \* Types of study to be included.

Give details of the study designs (e.g. RCT) that are eligible for inclusion in the review. The preferred format includes both inclusion and exclusion criteria. If there are no restrictions on the types of study, this should be stated.

Only original articles were included. Non-original articles as well as literature reviews were excluded.

### 23. Context.

Give summary details of the setting or other relevant characteristics, which help define the inclusion or exclusion criteria.

Studies that dealt with older adults' acceptance of nutrition and/or fitness apps were included.

### 24. \* Main outcome(s).

Give the pre-specified main (most important) outcomes of the review, including details of how the outcome is defined and measured and when these measurement are made, if these are part of the review inclusion criteria.

Acceptance of nutrition and/or fitness apps, e.g. usage of as well as attitudes towards such apps. Acceptance was addressed inductively, by means of thematic analysis. Hence, measures were not defined a priori.

### Measures of effect

Please specify the effect measure(s) for you main outcome(s) e.g. relative risks, odds ratios, risk difference, and/or 'number needed to treat.

### 25. \* Additional outcome(s).

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List the pre-specified additional outcomes of the review, with a similar level of detail to that required for main outcomes. Where there are no additional outcomes please state 'None' or 'Not applicable' as appropriate to the review

Not applicable

### Measures of effect

Please specify the effect measure(s) for you additional outcome(s) e.g. relative risks, odds ratios, risk difference, and/or 'number needed to treat.

### 26. \* Data extraction (selection and coding).

Describe how studies will be selected for inclusion. State what data will be extracted or obtained. State how this will be done and recorded.

Studies were selected for inclusion by title, abstract, and full text screening conducted by two independent researchers. Reference lists of included studies were screened as well. Data of the included studies will be collected with regard to information on study characteristics, study design and methods utilized (sampling, data collection, analysis). In addition, sample and participant characteristics as well as study results relevant to the review questions will be summarized in a piloted data extraction form.

### 27. \* Risk of bias (quality) assessment.

State which characteristics of the studies will be assessed and/or any formal risk of bias/quality assessment tools that will be used.

Risk of bias was assessed using the MMAT appraisal as well as the AXIS tool.

### 28. \* Strategy for data synthesis.

Describe the methods you plan to use to synthesise data. This **must not be generic text** but should be **specific to your review** and describe how the proposed approach will be applied to your data. If meta-analysis is planned, describe the models to be used, methods to explore statistical heterogeneity, and software package to be used.

Data were synthesized by a narrative synthesis design using thematic analysis.

### 29. \* Analysis of subgroups or subsets.

State any planned investigation of 'subgroups'. Be clear and specific about which type of study or participant will be included in each group or covariate investigated. State the planned analytic approach.

Agegroup differences as well as differences in acceptance regarding fitness and nutrition apps were examined.

### 30. \* Type and method of review.

Select the type of review, review method and health area from the lists below.

#### Type of review

Cost effectiveness

No

Diagnostic

No

Epidemiologic

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No

Individual patient data (IPD) meta-analysis

No

Intervention

No

Living systematic review

No

Meta-analysis

No

Methodology

No

Narrative synthesis

Yes

Network meta-analysis

No

Pre-clinical

No

Prevention

Yes

Prognostic

No

Prospective meta-analysis (PMA)

No

Review of reviews

No

Service delivery

No

Synthesis of qualitative studies

No

Systematic review

Yes

Other

No

**Health area of the review**

Alcohol/substance misuse/abuse

No

Blood and immune system

No

Cancer

No

Cardiovascular

No

Care of the elderly  
No

Child health  
No

Complementary therapies  
No

COVID-19  
No

Crime and justice  
No

Dental  
No

Digestive system  
No

Ear, nose and throat  
No

Education  
No

Endocrine and metabolic disorders  
No

Eye disorders  
No

General interest  
No

Genetics  
No

Health inequalities/health equity  
Yes

Infections and infestations  
No

International development  
No

Mental health and behavioural conditions  
No

Musculoskeletal  
No

Neurological  
No

Nursing  
No

Obstetrics and gynaecology  
No

Oral health

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No

Palliative care

No

Perioperative care

No

Physiotherapy

No

Pregnancy and childbirth

No

Public health (including social determinants of health)

Yes

Rehabilitation

No

Respiratory disorders

No

Service delivery

No

Skin disorders

No

Social care

No

Surgery

No

Tropical Medicine

No

Urological

No

Wounds, injuries and accidents

No

Violence and abuse

No

### 31. Language.

Select each language individually to add it to the list below, use the bin icon to remove any added in error.  
English

There is not an English language summary

### 32. \* Country.

Select the country in which the review is being carried out. For multi-national collaborations select all the countries involved.

Germany



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#### 33. Other registration details.

Name any other organisation where the systematic review title or protocol is registered (e.g. Campbell, or The Joanna Briggs Institute) together with any unique identification number assigned by them. If extracted data will be stored and made available through a repository such as the Systematic Review Data Repository (SRDR), details and a link should be included here. If none, leave blank.

#### 34. Reference and/or URL for published protocol.

If the protocol for this review is published provide details (authors, title and journal details, preferably in Vancouver format)

Add web link to the published protocol.

Or, upload your published protocol here in pdf format. Note that the upload will be publicly accessible.

**No I do not make this file publicly available until the review is complete**

Please note that the information required in the PROSPERO registration form must be completed in full even if access to a protocol is given.

#### 35. Dissemination plans.

Do you intend to publish the review on completion?

Yes

Give brief details of plans for communicating review findings.?

#### 36. Keywords.

Give words or phrases that best describe the review. Separate keywords with a semicolon or new line. Keywords help PROSPERO users find your review (keywords do not appear in the public record but are included in searches). Be as specific and precise as possible. Avoid acronyms and abbreviations unless these are in wide use.

nutrition app; fitness app; old(er) adults; digital health; healthy ageing

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

If you are registering an update of an existing review give details of the earlier versions and include a full bibliographic reference, if available.

#### 38. \* Current review status.

Update review status when the review is completed and when it is published. New registrations must be ongoing so this field is not editable for initial submission.

Please provide anticipated publication date

Review\_Completed\_not\_published

#### 39. Any additional information.

Provide any other information relevant to the registration of this review.

#### 40. Details of final report/publication(s) or preprints if available.

Leave empty until publication details are available OR you have a link to a preprint (NOTE: this field is not editable for initial submission). List authors, title and journal details preferably in Vancouver format.

Give the link to the published review or preprint.