

INPLASY PROTOCOL

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None declared.

Effects of a pedometer-based walking programme on some modifiable risk factors of stroke among the community-dwelling older adult population

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Review question / Objective: Can the effects of a pedometer-based walking intervention bring about change on some modifiable risk factors of stroke among the elderly dwelling in a particular community?

Information sources: An extensive search strategy to identify studies that can be used for the review will be grouped into the search of bibliographic database, grey literature and eligibility criteria system of study inclusion. This procedure was created in accordance with the rules of the Cochrane Handbook of Systematic Reviews of Interventions (Higgins & Green, 2014) and advice for Health Care Review by the Centre for Reviews and Dissemination (Akers 2009).

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 23 March 2022 and was last updated on 23 March 2022 (registration number INPLASY202230118).

INTRODUCTION

Review question / Objective: Can the effects of a pedometer-based walking intervention bring about change on some modifiable risk factors of stroke among the elderly dwelling in a particular community?

Rationale: To determine the effects of a pedometer-based walking intervention on some modifiable risk factors of stroke among the elderly dwelling in a particular community.

Condition being studied: Aging.

METHODS

Search strategy: An extensive study strategy to search bibliographic databases and grey literature which will involve combinations of search terms from Medical Subject Heading (MeSH) terms and keywords in the titles, abstract and text for the population, intervention, control and major outcomes measures first in a pilot search to establish sensitivity and specificity of the search strategy. The use of Boolean operators and search truncation will be employed for the searches. A PubMed search with detail of the strategy will be shown in Appendix(es). The following databases will be included: Pubmed, CINAHL, EMBASE, the Cochrane Library and AMED.

Participant or population: This research will include studies on pedometer based walking exercise interventions done on community dwelling elderly population. Studies involving older human population aged ≥ 55 years that can be able to participate in the exercise irrespective of the sex will be included.

Intervention: RCTs of pedometer-based walking exercises for older adults will be included. Only studies with supervised exercise programs would be considered. Inclusion will not be restricted to a particular dose, form, frequency, duration and intensity of intervention or follow-up period after the intervention.

Comparator: The participants that will use pedometer and those participants that will not be using pedometer

Study designs to be included: This is a systematic review of Randomized Controlled Trials on the effect of Pedometer based walking programme on some modifiable risk factors of stroke among community dwelling elderly population.

Eligibility criteria: The study will include RCTs involving community-dwelling elderly participants aged ≥ 55 years placed on

pedometer-based walking programme interventions

Information sources: An extensive search strategy to identify studies that can be used for the review will be grouped into the search of bibliographic database, grey literature and eligibility criteria system of study inclusion. This procedure was created in accordance with the rules of the Cochrane Handbook of Systematic Reviews of Interventions (Higgins & Green, 2014) and advice for Health Care Review by the Centre for Reviews and Dissemination (Akers 2009).

Main outcome(s): Studies will report observable changes in the outcome measure of modifiable risk factors of stroke (obesity, hypertension, diabetes, physical activity, heart disease, high cholesterol). No grouping of the outcome measures into primary or secondary outcomes. All studies with outcomes on any particular type of modifiable risk factor of stroke will be included so far as an ambiguous free analysis was carried out for each outcome. All outcome variables will be gathered as they will be accounted for in individual studies. No modification of original description in the individual studies will be done. Clinical results will analysed and graded.

Data management: Studies will report observable changes in the outcome measure of modifiable risk factors of stroke (obesity, hypertension, diabetes, physical activity, heart disease, high cholesterol). No grouping of the outcome measures into primary or secondary outcomes. All studies with outcomes on any particular type of modifiable risk factor of stroke will be included so far as an ambiguous free analysis was carried out for each outcome. All outcome variables will be gathered as they will be accounted for in individual studies. No modification of original description in the individual studies will be done. Clinical results will analysed and graded.

Quality assessment / Risk of bias analysis: The first screening of the titles and

abstracts against the inclusion and exclusion criteria to recognize potentially important articles will be carried out by Ekowa Juliet (Reviewer 1). First screening results will be independently cross-checked by Omeje Chidimma (Reviewer 2), and the first screening will be followed by a screening of the full articles of these papers by reviewer 1, which will again be crosschecked by reviewer 2, with disagreements at this stage being resolved by reflection and consensus or by consultation with reviewer 3 (Sam Ibeneme). Following the initial selection of literature, the reviewers will use the Cochrane Collaboration's tool for risk of bias assessment, which includes reference to sequence generation, allocation concealment, blinding, incomplete outcome data (dropouts and withdrawals) and selective outcome reporting. regarding the process to be followed for summarizing the studies. Data will be extracted from relevant papers using predefined evidence summary templates. Data will be collected regarding the reasons for exclusion, characteristics of included studies, participants, interventions (including comparators) and outcomes. The final decision for inclusion or exclusion will be made by a team consisting of three reviewers. Any potential disagreement will be recorded and resolved by further discussion.

Strategy of data synthesis: The availability of appropriate data and resources to conduct a meta-analysis will be considered, where feasible. The effects of a pedometer-based walking programme on some modifiable risk factors of stroke among the community-dwelling elderly population, participants will be determined by an assessment of all the quantitative study outcomes which have analyzed the effects of these interventions. The results will be presented, analyzed and combined in a table, and validated statistical methods will be used to evaluate the different variables.

Subgroup analysis: Investigation and presentation of outcomes will be made using the main outcome. Studies that are

homogenous in study design, intervention and control will be pooled together for meta-analysis using a random effect model (Higgins & Green 2014). Appropriate statistical techniques will be used for each type of continuous (weighted mean differences if outcomes are consistent or standard mean difference if different outcomes are used, with 95% CI) and dichotomous variables (risk ratios, with 95% CI). Interpretation of studies that are heterogeneous will be done by narrative synthesis following the guideline of the Centre for Reviews and Dissemination to investigate the relationship and findings within and between the included studies (Akers et al., 2009).

Sensitivity analysis: The significant of studies with a high risk of bias on the general outcomes will be determined using sensitivity analysis. Subgroup analyses will be performed to study the potential influence of significant heterogeneity which could be due to intervention types or comparator on the treatment effect direction. This will be done only when there are more than two studies with homogeneous subsets. This will be performed on the primary outcomes only.

Language: English.

Country(ies) involved: Nigeria.

Keywords: Pedometer; older adults; modifiable risk factors; stroke.

Dissemination plans: Data from published literature will be used for the study. This work will determine the effect of pedometer based walking programme on some modifiable risk factors of stroke among community dwelling elderly population.

Contributions of each author:

Author 1 - Juliet Ekowa - Juliet conceive the study, participate in literature search and review, data extraction, study design and coordination, perform the statistical analysis and draft the manuscript.

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Author 2 - Chidimma Omeje - Chidimma help in literature search and review, data extraction and draft the manuscript.

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Author 3 - Sam Ibeneme - Sam participate in design of the study, coordination and help draft the manuscript.

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