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| **Review title** | | | | | | |
| A scoping review of exercise interventions addressing falls efficacy in community-dwelling older adults | | | | | | |
| **Anticipated or actual start date** | | | | | | |
| 1/03/2023 | | | | | | |
| **Anticipated completion date** | | | | | | |
| 26/02/2024 | | | | | | |
| **Stage of review at time of this submission** | | | | | | |
| This review has not yet started | | | | | | ☐ |
| **Review stage (please check all that apply)** | | | | | **Started** | **Completed** |
| Preliminary searchers | | | | | ☐ | ☐ |
| Piloting of the study selection process | | | | | ☐ | ☐ |
| Formal screening of search results against eligibility criteria | | | | | ☐ | ☐ |
| Data extraction | | | | | ☐ | ☐ |
| Risk of bias (quality) assessment | | | | | N/A | N/A |
| Data analysis | | | | | ☐ | ☐ |
| Provide any other relevant information about the stage of the review here: Not applicable | | | | | | |
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| **Funding sources/sponsors** | | | | | | |
| Nil | | | | | | |
| **Conflict of interest** | | | | | | |
| Authors have no known conflicts of interest to declare | | | | | | |
| **Review question(s)** | | | | | | |
| This scoping review aims to provide a deeper insight into the exercise interventions addressing falls efficacy in community-dwelling older adults.  The research questions are:   1. What exercise interventions target the confidence level for balance, balance recovery, safe landing and post fall recovery? 2. How were the exercise intervention strategies applied to target falls efficacy? | | | | | | |
| **Literature search** | | | | | | |
| The scoping review does not aim to provide an exhaustive review of the literature but to identify evidence of exercise interventions for falls efficacy.  A search of literature pertaining to falls efficacy and exercise interventions were conducted using the "Pubmed", "Ebscohost" & "PEDro" database using the following primary terms: "intervention", "exercise", "falls", "older adults", "long lie", "fall recovery", "fall efficacy", "fall prevention", "falls management", "balance confidence", "balance recovery confidence" and "safe landing confidence". | | | | | | |
| **URL to search strategy** | | | | | | |
| Nil | | | | | | |
| **Condition or domain being studied** | | | | | | |
| Falls efficacy | | | | | | |
| **Participants/population** | | | | | | |
| Community-dwelling older adults (>60 years of age) | | | | | | |
| **Intervention(s)/Exposure(s)** | | | | | | |
| Exercise interventions addressing fall efficacy in community-dwelling older adults. Only data identified between 2013-2022 and studies with fall efficacy measures reported will be included. Studies that use measures of fear of falling only to assess falls efficacy or studies that only include subjects restricted to a specific condition will be excluded. | | | | | | |
| **Comparator(s)/Control(s)** | | | | | | |
| Not applicable | | | | | | |
| **Types of study to be included initially** | | | | | | |
| All types of publications, including published original research, reviews papers, and PhD theses, will be included. | | | | | | |
| **Context** | | | | | | |
| Falls efficacy is an important psychological factor needing to be addressed in older adults when helping them to prevent and manage falls. Falls efficacy is a predictor of falls, balance and mobility performance (Kwan et al., 2013; Arnold et al., 2011; Delbaere et al., 2010). It is associated with increased levels of social participation, activities of daily living (ADL) and physical activity (Schepens et al., 2012). The resulting effect of low falls efficacy is the restriction of daily activities and engagement in exercise to reduce the risk of falls. This leads to the susceptibility of postural instability and weakness associated with deconditioning. Consequently, increased long-term fall risk results from activity limitation (Pua et al., 2017). Addressing fall efficacy is paramount towards reducing the risk of falling and improving control in managing falls.  Falls efficacy has been defined as a perceived ability to prevent and manage falls (Soh et al., 2022). Falls efficacy has been posited to encompass four types of self-efficacy – balance confidence, balance recovery confidence, safe landing confidence and fall recovery confidence to reflect the different perceived abilities needed to deal with falls (Soh et al., 2021). Conventionally, falls efficacy has been understood as balance confidence or low falls efficacy was viewed as a fear of falling. However, approaching falls efficacy in this manner truncates the comprehensive approach towards helping older people take better control of falls. The perceived ability of a person is shaped based on the lived bodily experience of the physical, psychological and emotional sensations from the environment (Oberg et al., 2015). Three levels of awareness for constructing the body's expressive and impressive functions are: 1) The individual, which integrates body, mind, action and perception; 2) The interaction between person to person; 3) The extended level, which defines a person to the environment (Rodríguez-Jiménez & García-Merino, 2017). Therefore, interventions aiming to influence fall efficacy depend on the dynamic interplay between the environment, experience and the body.  Exercise interventions could also induce psychological effects through embodiment (Yang et al., 2022). Clemson et al. (2012) reported improvements in the Activity Balance Confidence (ABC) scale score significantly six months after baseline scores using the Lifestyle Integration Functional Exercise program. Other researchers have reported improvement in falls efficacy and confidence using a 5-week Felden Krais intervention (Ullmann et al., 2010). Exercise interventions must consider structuring the most appropriate environment to influence the experience for the person. This could influence the judgement of the person on whether he or she can perform in the given environment.  The objective of this scoping review is to provide more insights into the different exercise interventions and strategies conducted to influence the perceived abilities to deal with falls in community-dwelling older adults. These strategies will be evaluated using the appropriate theories, such as Bandura's self-efficacy theory and the Embodied-enactive clinical reasoning approach. The use of the Bandura's self-efficacy theory may explain how the four sources (i.e., mastery performance, vicarious experience, social persuasion, and physiological and emotional states) are enablers for developing falls efficacy through exercise interventions (Bandura A., 1977). Mastery performance may be achieved through participation in the intervention and its different variables. It is the most influential among the four sources as it involves the direct personal experience of the patient (Bandura A., 1977). Secondly, vicarious experience is influenced if group classes are held with individuals of similar capabilities (Arnold et al., 2011). Thirdly, social persuasion is achieved by an assurance from a figure of authority, e.g. a healthcare professional (Arnold et al., 2011). Lastly, exercise interventions often prescribed targeting to increase physiological and emotional states should lead to higher self-efficacy (Arnold et al., 2011).  To the authors' knowledge, there are limited studies detailing the understanding of what and how exercise interventions target falls efficacy. A review is warranted to identify and collate exercise interventions targeting the four domains of falls efficacy so that movement and exercise specialists can better understand the role of exercise interventions in potentially influencing falls efficacy. | | | | | | |
| **Primary outcome(s)** | | | | | | |
| There are two primary outcomes of interest that will be presented. First, to identify the types of exercise intervention used to address falls efficacy in community-dwelling older adults. Second, to identify key characteristics of exercise interventions targeting on specific sources of falls efficacy based on the sources of self-efficacy (i.e., performance mastery, vicarious experience, social persuasion, and physiology and emotional states). | | | | | | |
| **Secondary outcome(s)** | | | | | | |
| Not applicable | | | | | | |
| **Data extraction (selection and coding)** | | | | | | |
| A standardised eligibility criteria for the study selection will be applied to screen titles and abstracts. The articles will be added for additional examination of full-text articles by two reviewers against the eligibility criteria again. Any duplicated studies will be omitted. There will also be a discussion on any articles for which the two reviewers cannot agree. In the event that the two reviewers cannot come to a common consensus, a third reviewer will be consulted.  The data to be extracted will include the authors and year of study, country, intervention types and characteristics, study demographics, characteristics of intervention strategies that fit in one or more categories of sources of self-efficacy (performance mastery, vicarious experience, social persuasion, and physiology and emotional states) and the potential falls efficacy domain targeted. The relevant data will be entered into a Microsoft Excel data extraction sheet by one reviewer. A second reviewer will verify the accuracy of the data to ensure that no crucial information has been omitted. | | | | | | |
| **Risk of bias (quality) assessment** | | | | | | |
| Not applicable | | | | | | |
| **Strategy for data synthesis** | | | | | | |
| The extracted data will be generated into a table with the exercise interventions allocated under each falls efficacy domains: balance confidence, balance recovery confidence, safe landing confidence and fall recovery confidence. Under each intervention, the components of sources of self-efficacy will be identified. | | | | | | |
| **Analysis of subgroups or subsets** | | | | | | |
| None | | | | | | |
| **Type of review (Select one of the following)** | | | | | | |
| ☒ | Scoping review | | | | | |
| ☐ | Rapid review | | | | | |
| ☐ | Systematic review | | | | | |
| ☐ | Others: | | | | | |
| **Language** | | | | | | |
| English | | | | | | |
| **Country** | | | | | | |
| Singapore, Thailand | | | | | | |
| **Other registration details** | | | | | | |
| Not applicable | | | | | | |
| **Reference and/or URL for published protocol** | | | | | | |
| Nil | | | | | | |
| **Dissemination plans** | | | | | | |
| The review will be submitted to an international peer-reviewed journal for open access publication. Team members will use their network to encourage broad dissemination of the review. | | | | | | |
| **Do you intend to publish the review on completion** | | | | | | |
| ☒ | Yes | | | | | |
| ☐ | No | | | | | |
| **Keywords** | | | | | | |
| Exercise, intervention, falls, older adults, long lie, fall recovery, fall efficacy, fall prevention, falls management, balance confidence, balance recovery confidence, safe landing confidence | | | | | | |
| **Details of any existing review of the same topic by the same authors** | | | | | | |
| Nil | | | | | | |
| **Current review status** | | | | | | |
| Ongoing | | | | | | |
| **Any additional information** | | | | | | |
| Nil | | | | | | |
| **Details of final report/publication(s)** | | | | | | |
| Not applicable | | | | | | |