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Version 1

# Visual frailty in the ageing population: A scoping review V.1

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**We use this protocol and it's working**

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Legal and General

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## Abstract

Visual frailty is a condition which has not been comprehensively explored by researchers and other professionals. This scoping review will be used as a starting point towards development of a comprehensive definition and designing an assessment and screening tool for the condition.

It is well-known that vision deteriorates with age due to a range of factors like genetics, family history, ocular conditions, systemic diseases, and trauma but little is known about visual frailty, its definition, screening, and assessment in the ageing population. This scoping review aims to provide a basis for the definition of visual frailty and identify its screening and assessment tools in the ageing population.

## Troubleshooting

## Background

- 1 According to the 2019 World population ageing report, there is a general global trend in all countries indicating growth in the size and proportion of people in later life (1). In the report, persons aged 65 years and over were 703 million globally, but this was projected to double to 1.5 billion in 2050.

Increase in this population comes with a few challenges for the individuals which should be addressed to have a healthy aging process. Some of the challenges affect one or more body systems. The aim of this review is to explore the available literature to one of these challenges i.e., visual frailty and provide a starting point towards defining this concept in the ageing population.

There are many eye conditions associated with ageing like cataracts, glaucoma, age-related macular degeneration but little is known about visual frailty which could be a result of these conditions or it could be associated with several factors.

This scoping review will provide information about visual frailty in terms of the current known definition(s), the screening and assessment tools together with the domains. While the concept of visual frailty can be applied to different ocular conditions, this review will rely on Age-related Macular Degeneration (AMD) as an example to explore it.

## Review questions

- 2
  1. What is the definition of visual frailty?
  2. What domains can be used in the assessment of the condition?
  3. Are there assessment tools for the condition in the ageing population?
  4. What factors are associated with visual frailty in the ageing population?
  5. What is the relationship between frailty and AMD?

## Eligibility criteria

- 3
  - Peer reviewed journals and grey literature containing visual frailty will be comprehensively searched from difference sources. These sources will include various medical databases and websites.
  - All research publications, or information from various websites and other sources about visual frailty in the ageing population from **1<sup>st</sup> January 1990** to **29<sup>th</sup> February 2024** will be included.
  - Studies to be included will include cohort studies, case-control studies, Randomised controlled Trials (RCTs), expert opinions, and letters to authors about visual impairment & frailty.



- The grey literature sources for this scoping review will include, eyecare websites like professional associations.
- Only studies from High Income Countries (HICs) will be included in this scoping review.
- The age group to be included is 40 and above.
- Articles published in English, French, Spanish and Japanese will be included.

## Exclusion criteria

- 4
- Systematic reviews, research protocols, conference abstracts, posters and letters to editors/editorials/editor's opinions will be excluded.
  - Studies focussing on general diseases without including the eye or the visual system.
  - Studies that focus on frailty without including the eye and the visual system
  - All animal studies will be excluded

## Methods

- 5
- This review will rely on the updated JBI methodology for conducting scoping reviews published in 2020 (2).

## Databases

- 6
- Medline-OVID
  - Embase
  - Scopus
  - Cochrane Library
  - Web of Science

## Search strategies

- 7
1. (Visual frailty OR eye frailty) AND (Elderly OR older adults OR older people OR geriatric)
  2. (Age-related macular degeneration OR AMD) AND frailty

## Title and abstract screening

- 8
- This will be done using covidence by two reviewers to reduce the risk of bias associated with only one person conducting the screening.

## Data extraction



- 9 This will be done by two reviewers and will be confirmed by a third member of the team before analysis and presentation.

## Main outcomes

- 10 This scoping review will produce the following outcomes:
1. Definition of visual frailty
  2. Identify potential assessment tools for the condition including the domains
  3. Identify the factors associated with visual frailty
  4. Establish the relationship between visual system and frailty.

## Conflict of interest

- 11 The authors declare no conflict of interest in this scoping review.

## Acknowledgement

- 12 We acknowledge the guidance provided in the development of this protocol by Dr. Marshall Dozier, the Academic Support Librarian from the College of Medicine and Veterinary Medicine (CMVM), University of Edinburgh

## Protocol references

1. United Nations Department of Economic and Social Affairs, Population Division (2020). World population ageing. 2019 (ST/ESA/SER.A/444).
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