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The association between echo intensity and muscle strength or physical performance in the older population: a scoping review

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ABSTRACT

Objective: The purpose of this scoping review is to understand the extent and type of evidence in relation to the usefulness of muscle echo intensity using ultrasound imaging in the assessment of physical performance.

Introduction: Recently, there has been an increasing number of reports on the use of ultrasound imaging to assess muscle strength or physical performance. While indices such as muscle thickness are common, reports on the relationship between muscle echo intensity and physical function have increased in the last few years. In the absence of randomized controlled trials of sufficient quantity and quality, a comprehensive summary of these studies has yet to be reported.

Inclusion criteria: The participants should be healthy participants who are over 65 years old. The concept will be the investigation of the relationship between muscle echo intensity using ultrasound imaging and physical function such as muscle strength or physical performance (e.g., a sit and stand test or 6 minutes walking test). For context, only observational studies should be included.

Methods: MEDLINE, CENTRAL, CINAHL, and Web of Science will be systematically searched using the keywords "echo intensity," "ultrasound," and "geriatrics" until March 2021. In the first screening step, two independent reviewers will review all of the titles and abstracts to exclude irrelevant articles. The second screening step will be according to the same inclusion criteria.

ATTACHMENTS

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Ultrasound, Echo intensity, Physical performance, Elderly, Geriatric

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