

INPLASY

Epidemiology of sarcopenia in Asia 2020-2023: Systematic review and meta-analysis after the 2019 Diagnostic Consensus Update

INPLASY202450095

doi: 10.37766/inplasy2024.5.0095

Received: 20 May 2024

Published: 20 May 2024

Corresponding author:

Shao-En Weng

d11451001@ntu.edu.tw

Author Affiliation:

Graduate institute of Clinical Pharmacy, College of Medicine, National Taiwan University.

Weng, SE; Lai, HY; Tseng, YC; Peng, HR; Huang, YW; Hsiao, FY; Chen, LK.

ADMINISTRATIVE INFORMATION

Support - Funding This research was funded by the Taiwan Ministry of Science and Technology (MOST 110-2634-F-010-001), the Taiwan National Science and Technology Council (NSTC111-2622-8-A49-019-IE, NSTC112-2923-B-A49-002-MY2), and the Interdisciplinary Research Center for Healthy Longevity of National Yang Ming Chiao Tung University from The Featured Areas Research Center Program within the framework of the Higher Education Sprout Project by the Ministry of Education (MOE) in Taiwan. The funding source had no role in conducting this study, including study design, data collection and analysis, manuscript preparation and review, and the decision to submit the manuscript for publication.

Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202450095

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 20 May 2024 and was last updated on 20 May 2024.

INTRODUCTION

R **Review question / Objective** P: participants must be aged 60 years or older; I: The studies required to employ the AWGS 2019 diagnostic criteria for sarcopenia; O: The prevalence or incidence of sarcopenia.

Condition being studied This systematic review and meta-analysis thus focuses on Asian studies published subsequent to the 2019 AWGS consensus with the primary objective to evaluate the current epidemiology of sarcopenia in Asia using the most recent diagnostic guidelines.

METHODS

Participant or population Participants must be aged 60 years or older.

Intervention The studies required to employ the AWGS 2019 diagnostic criteria for sarcopenia. The study is required to provide a thorough description of the diagnostic measures and methods used for sarcopenia, encompassing evaluations of skeletal muscle mass, grip strength, and gait speed, among other parameters.

Comparator The study assessed the prevalence of sarcopenia using AWGS 2019 criteria, with no comparator needed.

Study designs to be included The studies must employ a longitudinal (either prospective or retrospective) observational design, excluding formats like reviews, editorials, commentaries, case reports, treatment consensus, or guidelines. Additionally, studies lacking full-text accessibility were not considered.

Eligibility criteria Our inclusion criteria for the studies were as follows: (1) participants must be aged 60 years or older; (2) The studies required to employ the AWGS 2019 diagnostic criteria for sarcopenia; (3) The study is required to provide a thorough description of the diagnostic measures and methods used for sarcopenia, encompassing evaluations of skeletal muscle mass, grip strength, and gait speed, among other parameters; (4) The studies must employ a longitudinal (either prospective or retrospective) observational design, excluding formats like reviews, editorials, commentaries, case reports, treatment consensus, or guidelines. Additionally, studies lacking full-text accessibility were not considered.

Information sources We conducted a systematic review and meta-analysis, scrutinizing studies up until March, 23, 2024, from databases including PubMed, Embase, Web of Science, and Cochrane.

Main outcome(s) The prevalence or incidence of sarcopenia.

Quality assessment / Risk of bias analysis For cohort studies, we applied the Newcastle-Ottawa Scale (NOS). For cross-sectional studies, a modified version of the Newcastle-Ottawa Scale (NOS) adapted for such studies was used. For prevalence studies, we applied JBI critical appraisal tools.

Strategy of data synthesis The prevalence of sarcopenia among older adults in the including study was reported as a number (n) and percentage (%). The prevalence was analyzed through meta-analysis employing random-effects models, and the aggregated findings were illustrated in Forest plots. Statistical heterogeneity among the included studies was assessed using Cochran's Q test, reported with a corresponding P-value, and the I^2 test. Publication bias was evaluated visually through funnel plot asymmetry and quantitatively via Egger's regression test.

Subgroup analysis Subgroup analyses were conducted based on criteria derived from country, disease status, and sarcopenia status (categorized as sarcopenia, possible sarcopenia, and severe sarcopenia).

Sensitivity analysis Sensitivity analyses were conducted based on study design and the different sarcopenia diagnosis tools recommended by AWGS 2019.

Country(ies) involved Taiwan.

Keywords older adults, aged, geriatric, Asian Working Group for Sarcopenia (AWGS) 2019, sarcopenia.

Contributions of each author

Author 1 - Shao-En Weng.

Author 2 - Hsi-Yu Lai.

Author 3 - Yu-Chi Tseng.

Author 4 - Hong-Ru Peng.

Author 5 - Yu-Wen Huang.

Author 6 - Fei-Yuan Hsiao.

Author 7 - Liang-Kung Chen.