

# Sarcopenia in acutely hospitalized orthogeriatric patients: a scoping review

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## Background

Sarcopenia (age-related decline of muscle mass and function) is associated with functional decline and mortality in hospitalized older adults. There are different diagnostic criteria propagated by Asian, European, and American working groups (AWGS, EWGS, FNIH [1-3]). Yet, the evidence regarding diagnostics and adverse outcomes of sarcopenia is unclear in hospitalized orthogeriatric patients.

## Purpose

Scoping review to identify the evidence of diagnostics and (adverse) outcomes in acutely hospitalized orthogeriatric patients.

## Methods

We performed a systematic literature search according to PRISMA guidelines in PubMed and Embase (Fig. 1). We included original articles that compared length of hospital stay, discharge destination, falls, refractures, functional outcomes, or mortality of orthogeriatric patients over 65 years of age with defined sarcopenia to a non-sarcopenic control group.

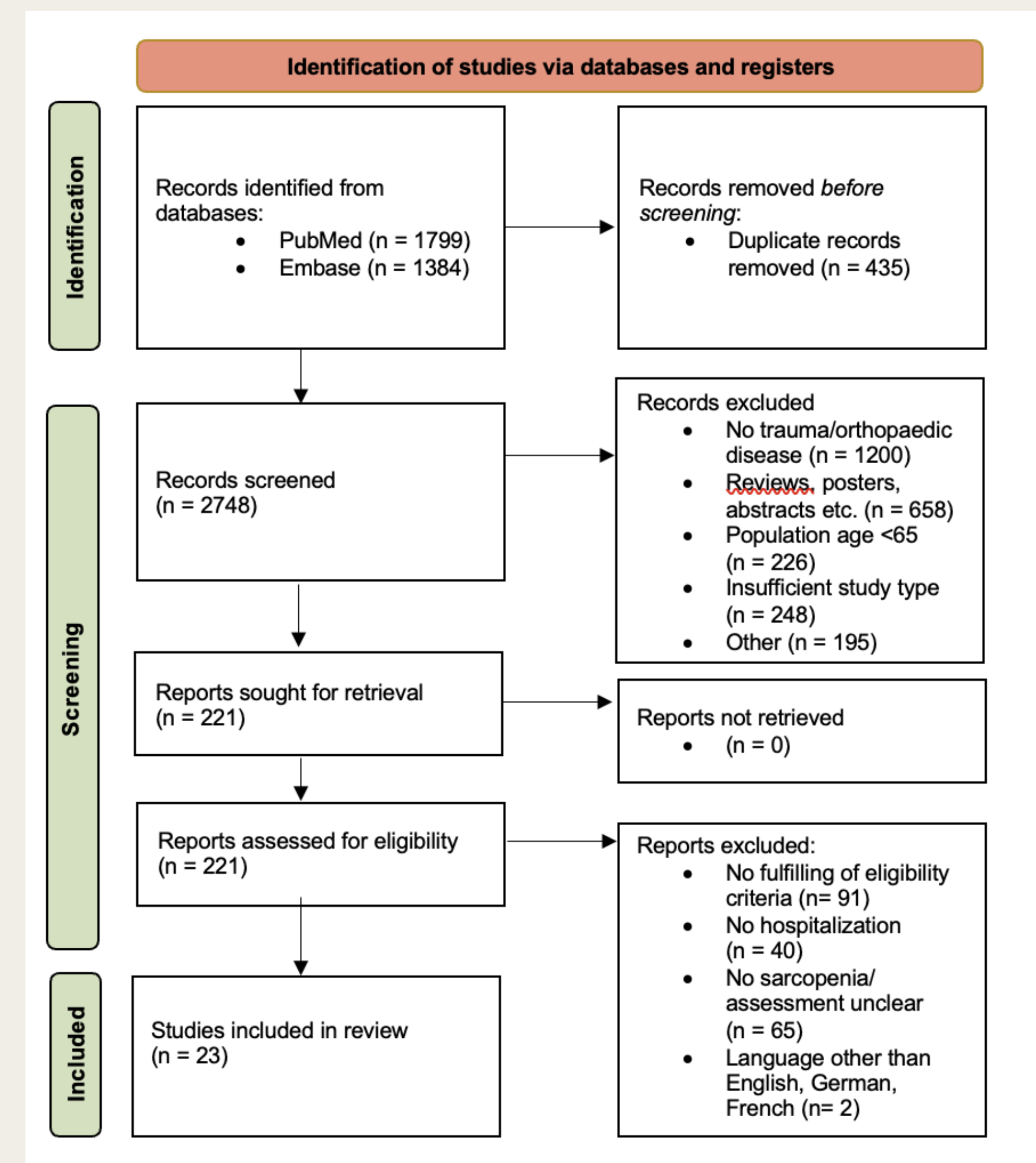


Figure 1: PRISMA flow chart

## Results

Figure 2

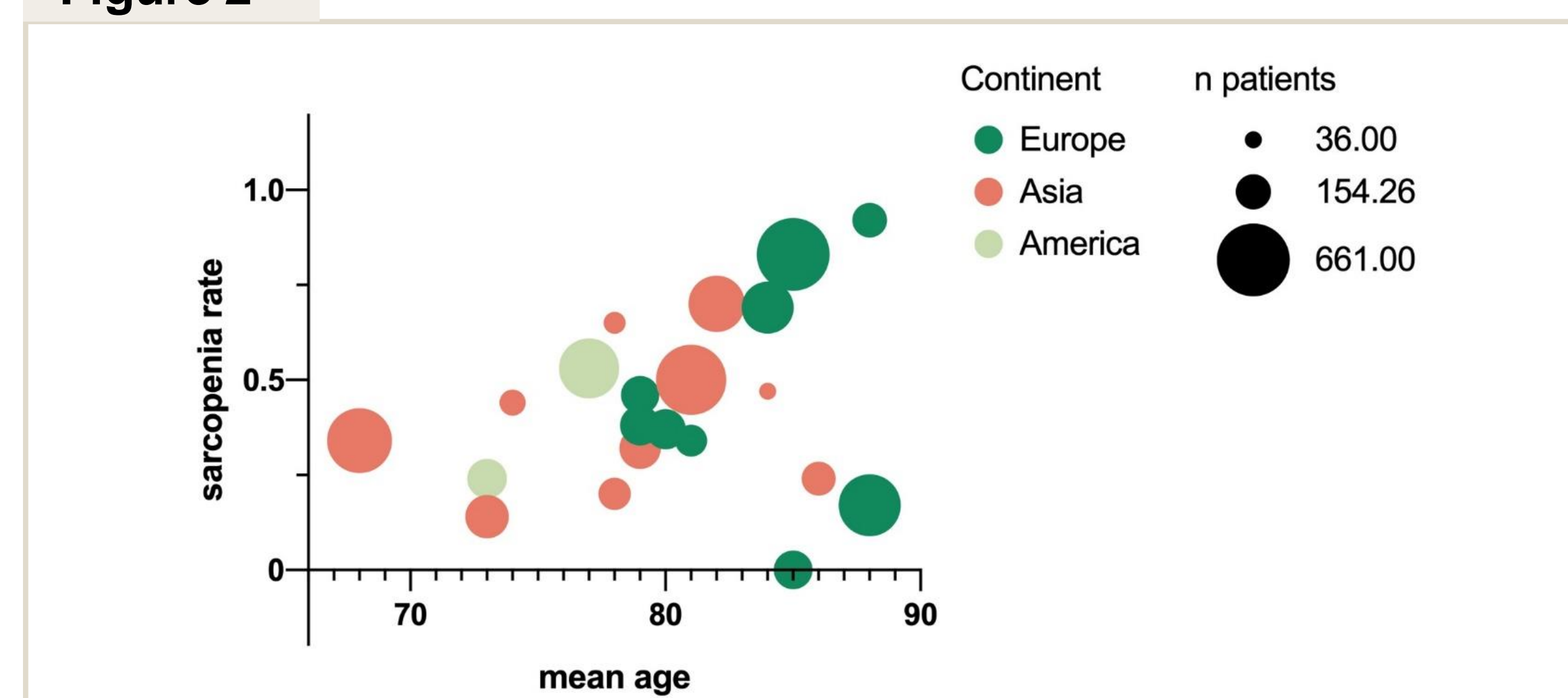


Figure 2: Most publications originated from Asia (n = 13), followed by Europe (n = 8) and the US (n = 2) (figure 3).

Figure 3

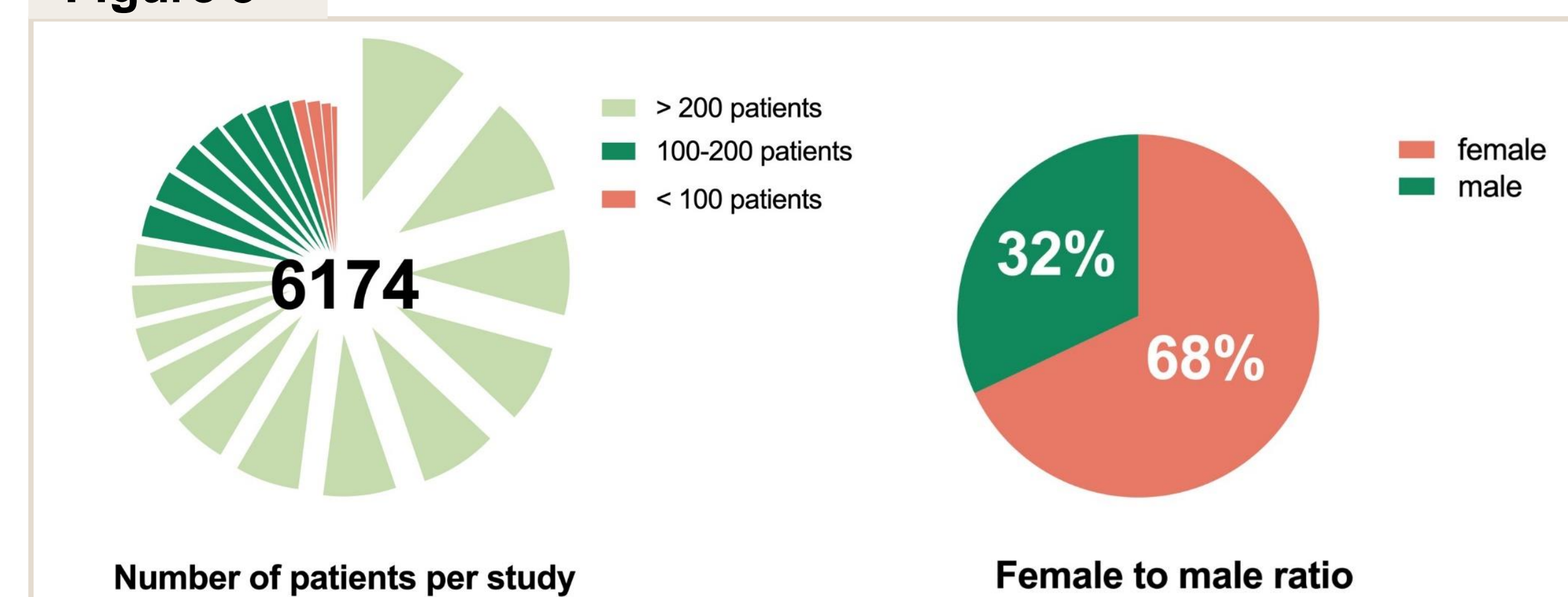


Figure 3: In this review including 23 studies, a cumulative number of 6174 patients with an average age of 80 years was investigated.

Figure 4

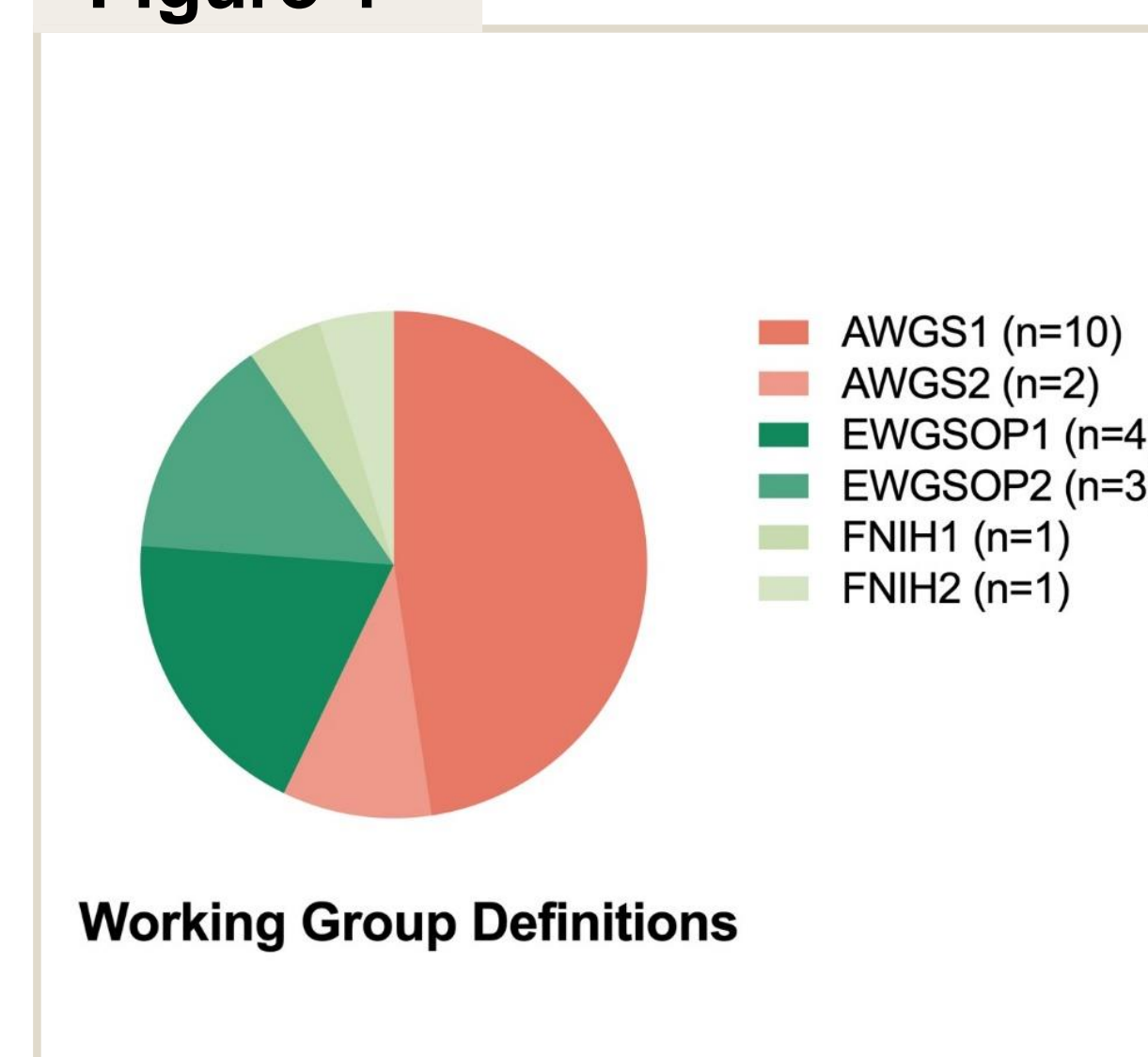


Figure 4: Sarcopenia was defined heterogeneously, with the criteria and reference values of the AWGS1 being the most used (n = 10).

Figure 5

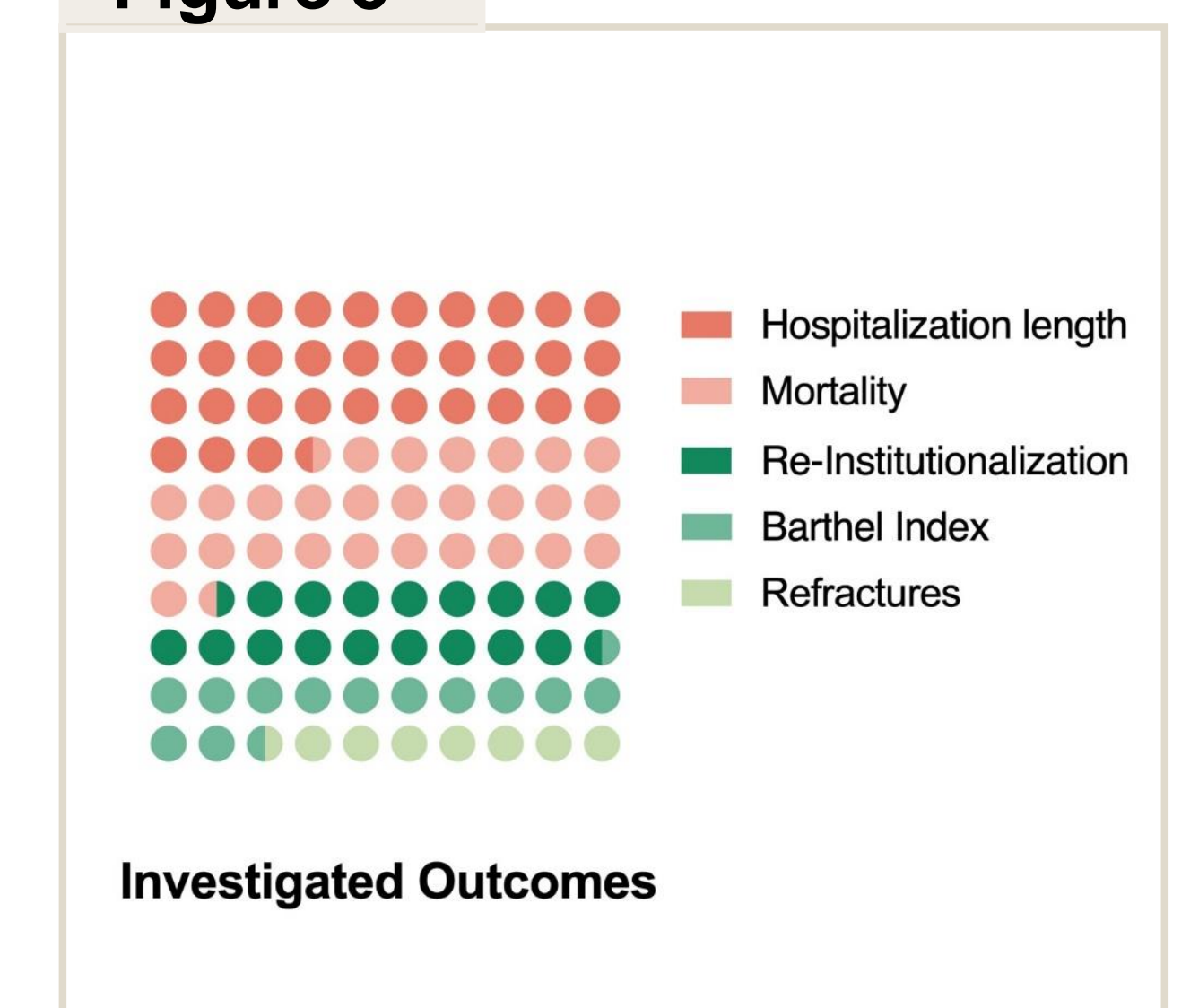


Figure 5: Percentage of investigated outcomes. 12 studies found longer hospitalizations up to +41%. 10 articles demonstrated increased mortality (OR 1.1-6.9). 7 studies described more re-institutionalizations (OR 1.1-3.2). Greater Barthel Index decline was described in 4 studies. 3 publications investigated refractures: One study in hip patients (10% refractures), and two studies in spine patients (39% and 84% refractures, respectively).

## Conclusion

Sarcopenia in orthogeriatric patients has been investigated in a **substantial number of studies**. Yet, there is considerable **heterogeneity regarding sarcopenia definitions** and data regarding undesirable consequences are sparse. There is currently **no uniform evidence** to define the **diagnostics** and (adverse) **outcomes** in acutely hospitalized **orthogeriatric patients with sarcopenia**.

## References

- [1] Chen, L.K., et al., Asian Working Group for Sarcopenia: 2019 Consensus Update on Sarcopenia Diagnosis and Treatment. J Am Med Dir Assoc, 2020. 21(3): p. 300-307.e2.
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- [3] Studenski, S.A., et al., The FNIH sarcopenia project: rationale, study description, conference recommendations, and final estimates. J Gerontol A Biol Sci Med Sci, 2014. 69(5): p. 547-58.