

COMPARISONS OF PREVALENCE OF AND RISK FACTORS FOR SARCOPENIA BY EWGSOP1 AND EWGSOP2 DIAGNOSTIC CRITERIA AMONG COMMUNITY DWELLING OLDER PEOPLE OF IRAN: THE BUSHEHR ELDERLY HEALTH (BEH) PROGRAM

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Background:

In early 2018, the European Working Group on Sarcopenia in Older People (EWGSOP2) focused on low muscle strength as a key characteristic of sarcopenia, and provided clear cut-off points for variables identifying sarcopenia. Therefore, due to different criteria i.e. different measures, correction factors and cut-off points, the prevalence rates vary across literature. This study aimed to compare the prevalence and risk factors of sarcopenia in community-dwelling older people by the EGWSOP1 and EWGSOP2 diagnostic criteria in Iran.

Method:

A total of 2426 Iranian adults aged ≥ 60 years, participating in the stage II of Bushehr Elderly Health (BEH) program, a population-based prospective cohort study; were recruited.

We compared the prevalence of sarcopenia in our population by 2 diagnostic criteria of EWGSOP.

According to EWGSOP1 definition, individuals were considered: pre-sarcopenia (low muscle mass), sarcopenia (low muscle mass with low hand grip strength /low muscle performance) and severe sarcopenia (low muscle mass with low hand grip strength +low muscle performance).

Based on EWGSOP2 definition, individuals were considered: probable (low muscle strength), sarcopenia (low hand grip strength with low muscle mass) and severe sarcopenia (The existence of 3 parameters together).

Reference data from a normative Iranian population are available for detecting parameters of sarcopenia. Accordingly, the cut-off values for low skeletal muscle mass index (SMI) were 7.0 kg/m^2 and 5.4 kg/m^2 among men and women, respectively. The muscle strength were handgrip strength $< 26 \text{ kg}$ for men and $< 18 \text{ kg}$ for women; while the cut-off value for low physical performance was a usual walking speed $< 0.8 \text{ m/s}$ for both genders. Body composition was measured by dual X-ray absorptiometry (DXA).

Results:

The prevalence of sarcopenia was 21.8%- 13.6% in men and 13.0%- 8.0% in women according to

EWGSOP1 and EWGSOP2 criteria. The prevalence of severe sarcopenia was 13.9% in men and 18.5% in women, with both criteria. However, using EWGSOP1 criteria, the prevalence of pre-sarcopenia was higher in men than women (27.3% vs 5.3%). When it is defined by EWGSOP2 criteria, 37.9% of women have probable sarcopenia.

The multiple logistic regression models of the risk factors for sarcopenia reveal that the coefficient of age is greater than 1 indicating that getting older increases the odds of sarcopenia in both genders, in both sarcopenia definitions. Similarly, high fat mass among men and women seems to have higher odds ratio of sarcopenia in two definitions (OR between 2.18 and 2.57 in men, 2.37 and 5.79 in women).

Conclusions:

The prevalence of sarcopenia varied largely using different criteria. If the probable sarcopenia, sarcopenia, and severe sarcopenia are determined in Iranian population based on EWGSOP1 definition and Iranian cutoff, the result will be different from that of with EWGSOP2 definition and Iranian cutoff. Some adverse outcomes should be considered for estimating the risk of sarcopenia among old Iranian to compare the accuracy of EWGSOP1 and EWGSOP2.