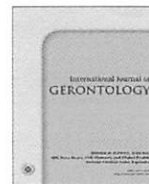




Contents lists available at ScienceDirect

International Journal of Gerontology

journal homepage: www.ijge-online.com

Original Article

Alcohol Consumption is Positively Associated with Handgrip Strength Among Japanese Community-dwelling Middle-aged and Elderly Persons

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ARTICLE INFO

Article history:
Available online xxx

Keywords:
alcohol consumption,
handgrip strength,
aging,
confounding factor

SUMMARY

Background: Alcohol consumption is an important lifestyle factor for a variety of health problems, we investigated whether alcohol consumption is associated with handgrip strength (HGS), which is a useful indicator of sarcopenia, among Japanese community-dwelling persons.

Methods: The present study included 764 men aged 70 (69–70) years and 955 women aged 70 (69–70) years from a rural village. Daily alcohol consumption was measured using the Japanese liquor unit in which a unit corresponds to 22.9 g of ethanol, and the participants were classified into never drinkers, occasional drinkers, daily light drinkers (1–2 units/day), and daily moderate drinkers (2–3 units/day).

Results: HGS were significantly correlated with age in both men and women. HGS increased significantly with increased daily alcohol consumption in both genders, and in men HGS in daily moderate drinkers were significantly greater than those in never, occasional, and daily light drinkers. In women, HGS in daily light and moderate drinkers were significantly greater than those in never drinkers. In men, Multivariate-adjusted HGS were significantly greater in daily light [mean: 33.4 (95% confidence interval: 32.3–34.5) kg] and moderate drinkers [33.6 (32.8–34.0) kg] than in never drinkers [31.7 (30.8–32.7) kg], and in women multivariate-adjusted HGS in occasional drinkers [21.5 (21.0–22.1) kg] was significantly greater in never drinkers [20.7 (20.5–21.0) kg].

Conclusion: These results suggest that alcohol consumption may have a protective role in aging-associated decline in muscle strength in community-dwelling persons.

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1. Introduction

Muscle weakness is consistently reported as an independent risk factor for high mortality in older adults,¹ and is an important public health problem. Thus, Handgrip strength (HGS) is an easily obtainable measure of physical health and muscle function, and is a reliable test to estimate cognitive performance, adverse outcomes (mortality, functional decline, institutionalization),² and mortality.¹

Alcohol consumption is an important lifestyle factor for a variety of health problems, and excessive alcohol consumption increases morbidity and mortality because it is associated with an increase risk of conditions such as liver disease, several types of cancer, and

sarcopenia (e.g., loss of muscle mass and strength).³ Although Mild to moderate alcohol consumption has also been known to improve of inflammation⁴ and insulin resistance,⁵ and is able to cause decreased cardiovascular disease (CVD).⁶ The results of meta-analysis to explore the relationship between alcohol consumption and sarcopenia in people aged ≥ 65 years old do not support alcohol consumption as a risk factor for sarcopenia.⁷ Thus, there is a great deal of controversy surrounding this relationship, and relevant literature on the relationship between the influence of alcohol intake and HGS is sparse.⁸ To our knowledge, there are few studies that demonstrate a relationship between alcohol consumption and HGS in Japanese population.

We hypothesized that alcohol consumption is associated with muscle strength. To confirm this hypothesis, we investigated whether alcohol consumption is associated with HGS, which is a useful indicator of sarcopenia, among Japanese community-dwelling persons.

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<https://doi.org/10.1016/j.ijge.2018.03.005>

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