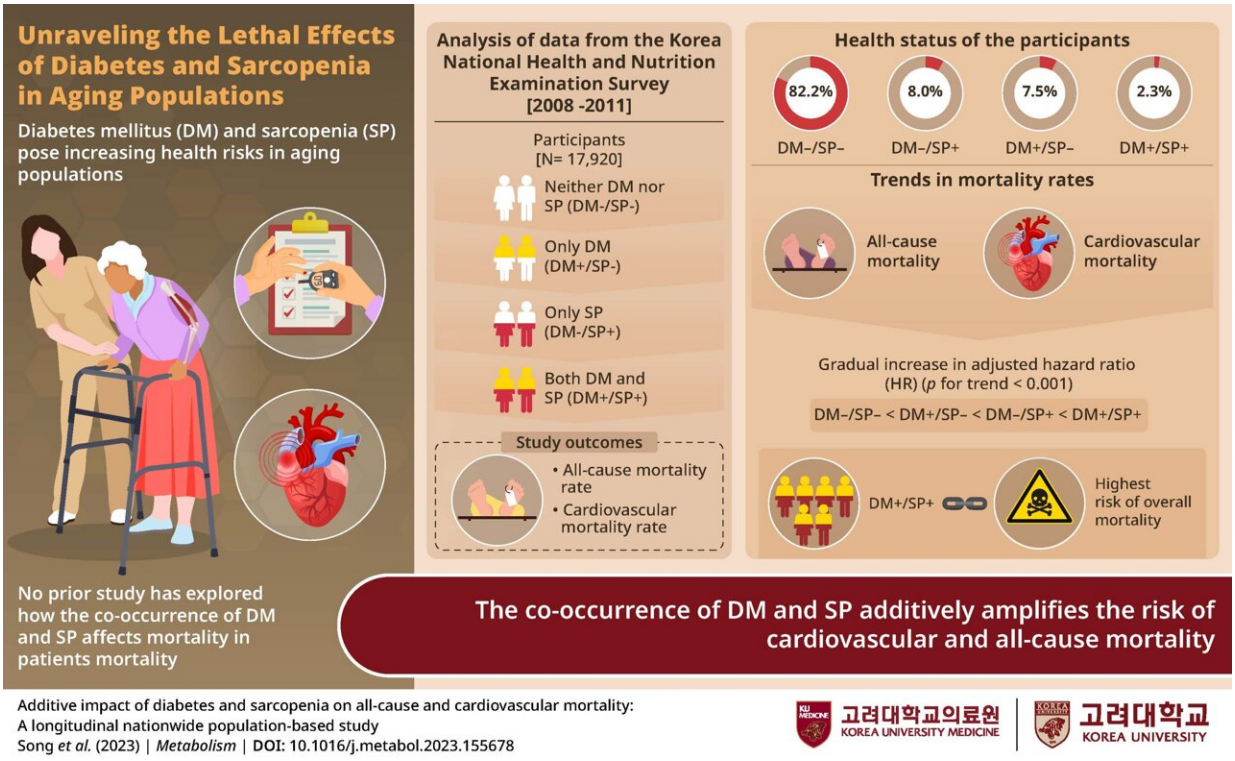
Researchers explore combined health impact of diabetes and sarcopenia in the elderly

January 23 2024



Diabetes mellitus and sarcopenia independently heighten mortality risks, and their co-occurrence additively amplifies cardiovascular and all-cause mortality in aging populations. Credit: Prof. Eyun Song and Prof. Kyung Mook Choi from the Korea University College of Medicine

Diabetes mellitus and sarcopenia pose a substantial challenge to public health, especially among the elderly. These conditions share common

pathophysiological mechanism and are linked bidirectionally, with each contributing to an increased risk of the other.

Previous research has shown that both diabetes and sarcopenia are individually linked to serious health complications including cardiovascular conditions that may result in death. However, there is limited research on the combined health impact of diabetes and sarcopenia, particularly in vulnerable populations such as the elderly.

To address this gap, a research team led by Professor Eyun Song and Professor Kyung Mook Choi from the Korea University College of Medicine, South Korea performed a longitudinal study to assess the combined impact of diabetes and sarcopenia on all-cause and cardiovascular death in the South Korean population. This results are published in the journal *Metabolism*.

The study analyzed data from the Korea National Health and Nutrition Examination Survey (2008–2011) and mortality data from the Korean National Death Registry. The study's findings revealed that the co-occurrence of diabetes and sarcopenia nearly doubled the risk of cardiovascular and all-cause death. Notably, the incidence of cardiovascular mortality was significantly elevated in the group exhibiting both diabetes and sarcopenia but not in groups exhibiting either condition.

Approximately 22%–24% of South Koreans suffer from both diabetes and sarcopenia, a significant portion of the population faces a doubled risk of mortality.

Implementing preventive health care strategies such as preventing muscle loss in patients with diabetes can potentially mitigate the co-occurrence and high mortality risk associated with both conditions. It is recommended that individuals in the high-risk category incorporate

lifestyle changes, regular exercise, and a balanced diet to reduce the likelihood of muscle loss. In fact, elderly patients with diabetes are advised to undergo screenings for sarcopenia to promptly receive care to address the combined threat of these conditions.

There is a need to develop new health care guidelines aimed at patients with both diabetes and sarcopenia, considering their unique health challenges and risks. Adding to this, Dr. Song says, "In the future, it might become mandatory for patients with diabetes to receive health care assessments that capture their muscle mass, muscle strength, and physical performance during clinical visits and for patients with sarcopenia to monitor their blood glucose levels and make lifestyle changes to maintain their glycemic status."

Summarizing the results of their research Dr. Choi says, "When diabetes and sarcopenia 'coexist,' there is an additive increase in all-cause and cardiovascular mortalities which underscores the importance of careful screening and prevention strategies in high-risk populations. Additionally, further research is needed to understand the intricate mechanisms linking diabetes and sarcopenia to and develop targeted treatments to enhance health outcomes."

In conclusion, health care systems may benefit from investing in preventive measures for sarcopenia and diabetes by potentially reducing costs associated with cardiovascular emergencies and lowering the overall health care burden.

More information: Eyun Song et al, Additive impact of diabetes and sarcopenia on all-cause and cardiovascular mortality: A longitudinal nationwide population-based study, *Metabolism* (2023). DOI: 10.1016/j.metabol.2023.155678

Medical Xpress

Provided by Korea University College of Medicine

Citation: Researchers explore combined health impact of diabetes and sarcopenia in the elderly (2024, January 23) retrieved 27 April 2024 from https://medicalxpress.com/news/2024-01-explore-combined-health-impact-diabetes.html

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