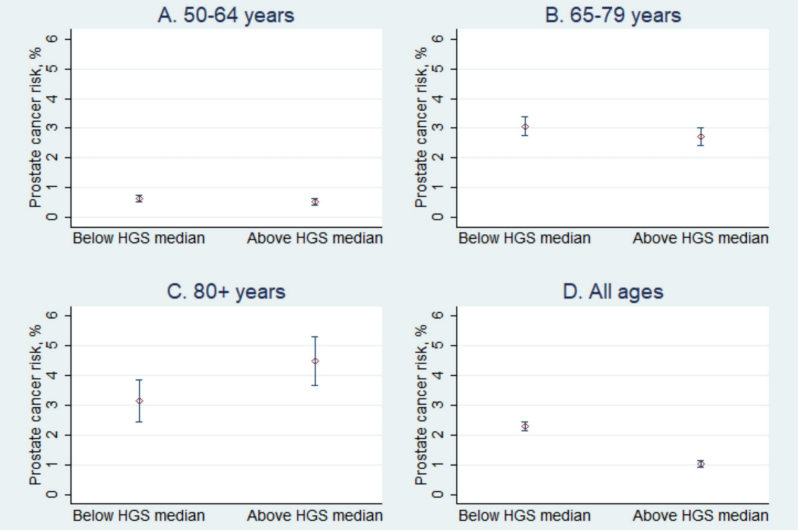
Low grip strength should not be used as an independent predictor of prostate cancer in older men

Low handgrip strength is a valuable indicator of overall health; it is not a reliable standalone predictor of increased prostate cancer risk among older men.

SHARJAH, EMIRATE OF SHARJAH, UNITED ARAB EMIRATES, June 29, 2026 /EINPresswire.com/ -- New research suggests that low handgrip strength alone is not a reliable predictor of increased prostate cancer risk among older men.

The relationship between low handgrip strength (HGS) and prostate cancer has long remained uncertain in the scientific literature. When clinicians consider grip strength as a possible indicator, they are often extrapolating from broader cancer research rather than relying on direct evidence.



The unadjusted risk of prostate cancer is shown for old people aged: 50–64 years (A); 65–79 years (B); 80+ years (C); All ages (D). Credit: Maturitas (2026). DOI: https://doi.org/10.1016/j.maturitas.2026.108926

In a study published in the journal Maturitas, the authors present detailed data and analysis challenging this assumption. “Low HGS (Handgrip Strength) does not independently predict prostate cancer risk in older European men,” they write. “While HGS is a valuable marker of overall health, its role in assessing prostate cancer risk appears to be limited.”

The study draws on data from a large longitudinal cohort of 64,371 men aged 50 and above at baseline. Participants were recruited in 2004 as part of wave 1 of the Survey of Health, Ageing, and Retirement in Europe (SHARE) and followed prospectively through multiple waves until 2022.

Prostate cancer was identified through self-reported physician diagnoses, while handgrip strength was measured using a Smedley dynamometer. “We applied pooled logistic regression,

fixed-effects models, and propensity score matching (PSM), adjusting for age, body mass index (BMI), mental health, chronic conditions, and country-level effects," they noted.

New insights into fatal disease

The World Health Organization (WHO) estimates that approximately 1.5 million new cases of prostate cancer occur globally each year, making it the second most common cancer among men and the fourth most common cancer overall. According to WHO's Global Cancer Observatory, around 5-6 million people worldwide are living with prostate cancer.

The study is notable because it offers new insights into a potential pathway that clinicians have cautiously relied on for the early detection of a disease that can often be fatal if not detected in time.

"As the burden of prostate cancer increases, identifying modifiable risk factors and early indicators of vulnerability becomes critical for public health and clinical practice," the researchers explain. "Among the emerging biomarkers of systemic health, handgrip strength (HGS) has gained attention as a simple, non-invasive measure of muscular strength and overall physiological reserve."

The large predictive cohort study is led by researchers affiliated with the University of Sharjah in the United Arab Emirates in collaboration with colleagues at Roskilde University in Denmark, the University of Helsinki in Finland, Shifa International Hospitals in Pakistan, and King Saud University in Saudi Arabia.

Initial models showed that low handgrip strength was associated with a 1.13 percentage point increase in prostate cancer risk. Moreover, a propensity score matching model suggested an 83% relative increase in risk (1.30 percentage points; OR = 1.949).

However, after adjusting for country-level matching, the researchers found that the effect of handgrip strength became "statistically insignificant" in predicting prostate cancer among older European men. These findings challenge earlier assumptions and suggest that its role in diagnosis remains uncertain.

Evaluating evidence and prospects

The authors report that their key finding – the absence of a statistically significant association between low handgrip strength and prostate cancer risk – suggests that handgrip is unlikely to be a reliable tool for early detection or for predicting disease progression.
"Thus, it appears that the HGS, as a standalone measure, may not capture the complexity of these biological interactions in a way that meaningfully predicts prostate cancer risk," the researchers note.

They acknowledge that these findings may appear surprising and somewhat inconsistent with existing literature on the relationship between handgrip strength and cancer outcomes. However, they argue that much of the earlier literature is based on overall cancer risk rather than on specific cancers such as prostate cancer.

“While some studies have reported associations between low HGS and increased cancer mortality, the findings often pertain to overall cancer risk rather than site-specific cancers, such as prostate cancer,” they explain. “These inconsistencies may partly be attributed to the cancer type, covariates, study population settings, the smaller sample size, and the measurement protocols of HGS.”

To address these inconsistencies, the authors recommend that future research use propensity score matching (PSM) in a large European cohort population with standardized measurement and a specific focus on prostate cancer.

Association diminishing after adjustment

The significance of the study lies in the novel insights it offers into the relationship between low hand grip strength and the risk of prostate cancer. The authors report that “while low HGS initially appeared to be associated with a higher risk of prostate cancer in unadjusted models, this association became statistically insignificant after adjusting for covariates such as age, BMI, mental health, and chronic conditions.”

Furthermore, even after applying PSM to reduce potential confounding, the observed association between low HGS and prostate cancer risk remained positive but was no longer statistically significant, as the authors point out.

Despite these findings, the researchers acknowledge several limitations that warrant consideration in future research. In particular, they highlight the potential for residual confounding, noting that “although we adjusted for a wide range of covariates, unmeasured factors such as diet, physical activity, genetic predisposition, and healthcare utilization could still influence the observed associations.”

They also point out that the exclusion of participants with hand arthritis may have introduced selection bias, potentially limiting the generalizability of the findings to relatively healthier individuals.

Nevertheless, the study demonstrates several notable strengths. Its large sample size and longitudinal design enhance statistical power and the temporal validity of the findings. In addition, the use of multiple analytical approaches, including pooled logistic regression, fixed-effects models, and PSM, provides a robust and comprehensive assessment of the relationship between HGS and prostate cancer risk.

In conclusion, the authors state that “while a low HGS is initially associated with an increased risk of prostate cancer, this relationship does not remain statistically significant after adjusting for relevant covariates and applying robust statistical controls.”

These findings suggest that although HGS is a valuable indicator of overall health and frailty, it may not serve as an independent predictor of prostate cancer risk in older men.

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