Where You Live Tied to Frailty Rate in Older People With HIV

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Older people with HIV (PWH) who are prefrail or frail proved more likely to live in a disadvantaged locale—as reckoned by area deprivation index (ADI)—than did older PWH who were not frail [1]. Researchers from the University of Colorado Anschutz Medical Campus believe their findings "highlight the need for a multilevel approach to the prevention of frailty."

Several studies indicate higher frailty prevalence in PWH than in the general population, often at an earlier age [2]. The Colorado investigators noted that social determinants of health (SDOH) are relevant in preventing frailty, but how the neighborhood where a person lives interacts with frailty remains little studied.

To address that gap in frailty research, these researchers analyzed the potential impact of neighborhood disadvantage estimated by ADI on frailty prevalence in an older population with HIV living in the Denver metropolitan area. By marshaling US Census data on 17 socioeconomic indicators, the investigators determined ADI rates from least to most disadvantaged on a 1-to-10 scale for states and on a 1-to-100 scale for the entire United States. The Colorado team used the Fried frailty phenotype [3] to determine whether a study participant was nonfrail (0 Fried criteria met), prefrail (1 or 2 criteria met), or frail (3 to 5 criteria met). (See reference 3 for criteria.)

The study population of 68 PWH came from two exercise studies (ClinicalTrials.gov IDs NCT02404792 and NCT04550676). All participants were 50 or older, sedentary, and lived in the greater Denver area. The group averaged 57.8 years in age (range 50 to 82), 58 (85.3%) were men, 43 (63.2%) white, 19 (27.9%) black, and 9 (13.2%) Hispanic. While 47 participants (69.1%) met criteria for prefrailty, 3 (4.4%) were frail and the rest nonfrail.

On the 1-to-10 state scale, people who were frail or prefrail had a median ADI of 7.0 (interquartile range [IQR] 5.0 to 8.3), while people who were nonfrail had a median ADI of 4.5 (IQR 2.8 to 7.3), a significant difference indicating greater area deprivation in the prefrail/frail group ($P = 0.023$). On the 1-to-100 national ADI scale, people who were prefrail/frail had a median ADI of 35.0 (IQR 26.5 to 46.5), compared with a less deprived ADI of 23.5 (IQR 14.5 to 39.5) in the nonfrail group, also a significant difference ($P = 0.031$). Both state and national ADIs were associated with the Fried frailty criterion of grip-strength weakness ($P = 0.002$), but there were no other associations between ADI and other individual Fried criteria.

The Colorado investigators concluded that both state and national ADI show that older PWH who are prefrail or frail live in more disadvantaged areas than older PWH who are nonfrail. They called for further research on possible ties between ADI and frailty to help devise

interventions that will lower frailty incidence in PWH.

References

1. Iriarte E, Jankowski C, Wilson M, Khuu V, Ditzenberger G, Erlandson K. Frailty and the area deprivation index as indicator of neighborhood disadvantage among older people with HIV in Colorado. International Workshop on HIV & Aging 2023, October 26-27, Washington, DC. Abstract 21.
2. Piggott DA, Erlandson KM, Yaashika KE. Frailty in HIV: epidemiology, biology, measurement, interventions, and research needs. Cur HIV/AIDS Rep. 2016;13:340-348. doi: 10.1007/s11904-016-0334-8. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5131367/
3. Fried LP, Tangen CM, Walston J, et al. Frailty in older adults: evidence for a phenotype. J Gerontol A Biol Sci Med Sci. 2001;56:M146-56. doi: 10.1093/gerona/56.3.m146. https://academic.oup.com/biomedgerontology/article/56/3/M146/545770 (The Fried frailty phenotype includes 5 conditions: weight loss, exhaustion, low physical activity, slow gait, and weak grip strength. Having 3 to 5 of these conditions indicates frailty, while 1 or 2 conditions indicate prefrailty.)