



## Reply to the letter 'Visual impairment and frailty in older people'

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Dear Editor,

We would like to thank Dr. Kawada [1] for his thorough reading of our paper [2] and his comments. Thank you also for pointing us to the paper by Varadaraj et al. [3] that we did not include in our review but adds to the papers that describe a cross-sectional association of visual impairment with frailty. Cross-sectional and, more importantly, longitudinal evidence reported by Swenor et al. [4] (that we reviewed in our discussion), ourselves and others support the existence of a causal association. The maintenance of a statistically significant association after adjustment in our analyses and those by others by variables that may lead to both self-reported visual impairment and frailty (like age, high blood pressure, cardiovascular disease, diabetes mellitus, smoking and emotional and cognitive impairment) rule out confounding as the explanation of the association.

We appreciate that Dr. Kawada stresses the link between visual impairment and another relevant outcome, cognitive impairment. We also reported a cross-sectional, bivariate association of these two variables in Table 1, but we did not explore it further because this was not the main objective of our paper. In any case, Dr. Kawada's comment strengthens our recommendation of assessing visual acuity in older patients.

### Declarations

**Conflict of interest** On behalf of all authors, the corresponding author states that there is no conflict of interest.

### References

1. Kawada T (2021) Visual impairment and frailty in older people. *Aging Clin Exp Res*. <https://doi.org/10.1007/s40520-021-01982-0>
2. Gonzales-Turín JM, Rodríguez-Laso Á, Carnicero JA et al (2021) Relationship between self-reported visual impairment and worsening frailty transition states in older people: a longitudinal study. *Aging Clin Exp Res*. <https://doi.org/10.1007/s40520-020-01768-w>
3. Varadaraj V, Lee MJ, Tian J et al (2021) Near vision impairment and frailty: evidence of an association. *Am J Ophthalmol* 208:234–241
4. Swenor BK, Lee MJ, Tian J et al (2020) Visual impairment and frailty: examining an understudied relationship. *J Gerontol A Biol Sci Med Sci* 75:596–602

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