

POOR PHYSICAL PERFORMANCE IN HEMODIALYSIS PATIENTS CAPTURES AN INCREASINGLY HIGHER PREDICTIVE POWER FOR MORTALITY ACROSS PROGRESSIVE AGE-STRATA

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INTRODUCTION

Poor physical performance is a notorious consequences of chronic kidney failure. As physical activity tends to worsen with aging, we made detailed analyses of the relationship between the physical activity component of the Rand- QoL Short Form 36 (SF36) and mortality in age-stratified data of the HD population forming the PROGREDIRE cohort (1).

RESULTS

The physical activity domain of SF36 was inversely associated to all-cause mortality both in patients ≤ 75 years and in those >75 years in unadjusted and fully adjusted analyses ($P < 0.001$). The gain in discriminating power, as assessed by the Harrell's C Index, was higher in the patients >75 years (+4.9%) as compared to those <75 years (2.9%), and the same trend was observed for NRI (+13%, $P = 0.058$, vs +10%, $P = 0.005$). When we analysed the global effect of increasing age on the predictive power of the physical activity component of SF36 (Fig.1) a gradual increase in the contribution of poor physical performance to explain the variability in mortality was evident. In patients >75 years poor physical performance explained as much as the 9% of the variability in mortality .

METHODS

We included in this analysis 983 HD patients who completed the SF36 questionnaire among the 1189 composing the whole PROGREDIRE cohort. The predictive power of the physical activity SF36 was assessed by the C-statistics, Harrell's C Index, Net Reclassification Index (NRI), Explained variation in mortality, comparing a basic model, including Framingham risk factors and kidney failure-related factors, with a full model, including the same variables of the base model and the physical activity component of SF36. To assess any differences due to the age we performed the analyses by dividing the whole population in 2 separate age-strata (≤ 75 years, $n = 730$; >75 years, $n = 253$). The mean follow-up was 2.8 years. Furthermore, we performed more granular analyses across increasing age (5 years) cut-offs from 55 years on.

CONCLUSIONS

Reduced physical activity as assessed by the corresponding component of SF36 captures an increasingly higher explanatory power for mortality across age strata. These analyses further underscore the relevance of poor physical performance in the haemodialysis population. Clinical trials are needed to assess whether interventions to increase physical activity may translate into longer survival in this population.

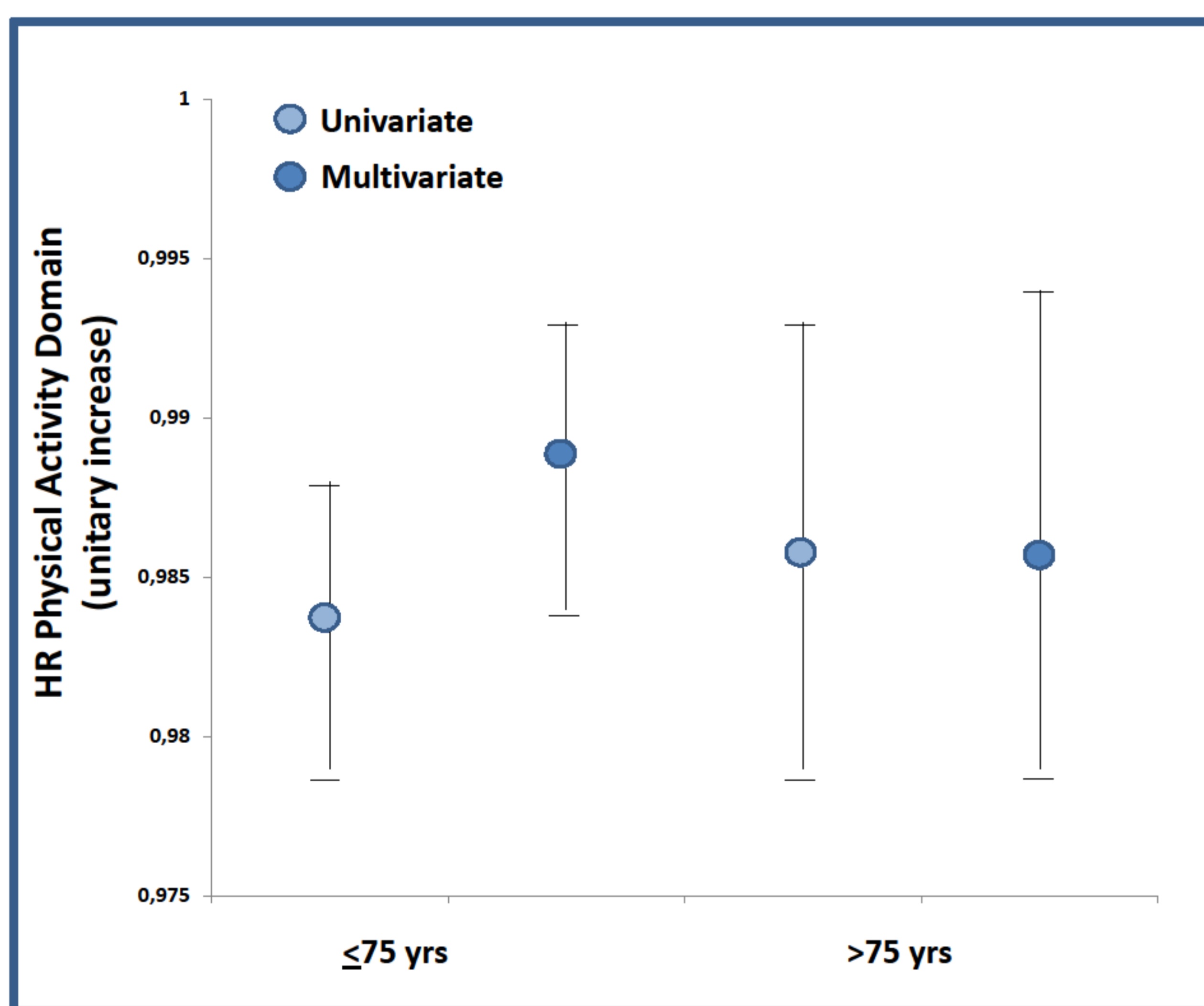


Fig. 1. Hazard ratio associated to physical activity domain of SF36 and 95% CI for all cause mortality.

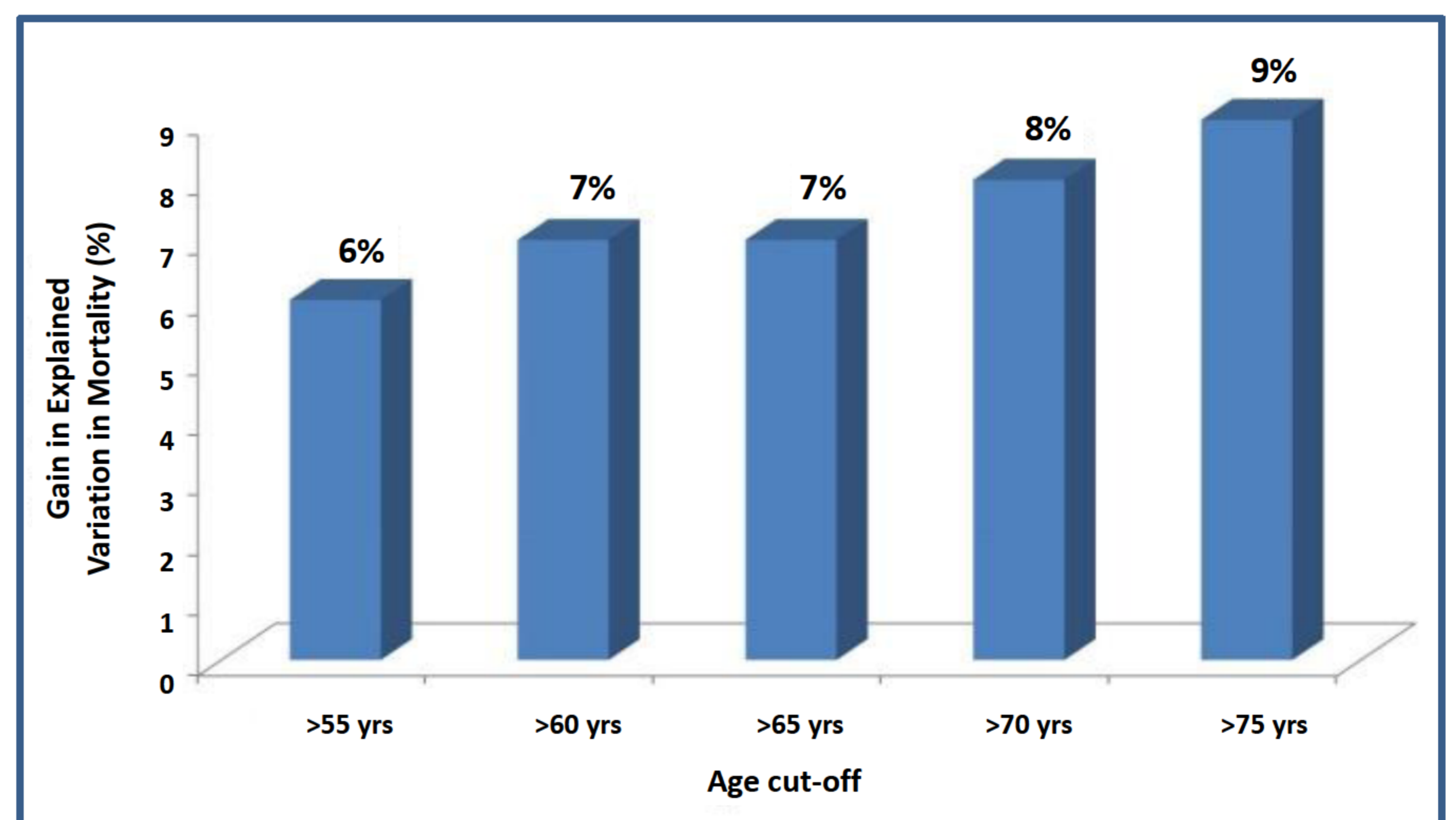


Fig. 2 The effect of increasing age on the gain in Explained Variation in Mortality of the physical activity component of SF36.

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