



Do psychosocial resources modify the effects of frailty on functional decline and mortality?



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ABSTRACT

Objective: Little is known about factors that may prevent or delay adverse health outcomes in frail older adults. Previous studies have demonstrated beneficial effects of psychosocial resources on health outcomes in older adults. The aim of this study was to investigate whether psychosocial resources modify the effects of frailty on functional decline and mortality.

Methods: The study sample consisted of 1665 men and women aged 58 and over from two waves of the Longitudinal Aging Study Amsterdam (LASA), a population based study. Frailty and psychosocial resources were assessed at T1 (2005/2006). Frailty was assessed using the criteria of Fried's phenotype. Psychosocial resources included sense of mastery, self-efficacy, instrumental support and emotional support. Functional decline and mortality were assessed at T2 (2008/2009).

Results: Results of logistic regression analyses demonstrated that frail older adults had higher odds of both functional decline (OR = 2.63, 95% CI = 1.61–4.27) and 3-year mortality (OR = 3.17, 95% CI = 1.95–5.15). After adjustment for covariates, higher levels of mastery and self-efficacy were associated with decreased odds of functional decline, but not mortality. No statistically significant interaction effects between frailty and psychosocial resources were found for either functional decline or mortality.

Conclusion: This study found no evidence that psychosocial resources buffer against functional decline and mortality in frail older adults.

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Introduction

Frailty in older adults is defined as a geriatric syndrome involving the loss of reserve capacity in multiple physiological systems, which increases the risk of adverse health outcomes, such as functional decline, hospitalization and mortality [1–4]. The research field on frailty is rapidly expanding, but still very little is known about factors that may prevent or delay adverse health outcomes in frail older adults [5]. One important group of factors that may modify the pathways from frailty to adverse outcomes consists of the psychosocial resources of an individual. It is well known that psychosocial resources, such as control beliefs and social support, have beneficial effects on health outcomes in older adults [6–10]. The general idea is that psychosocial resources help people to cope with stressful life events, to initiate healthy

behavior and to mobilize caregivers in times of need [11,12]. These mechanisms may delay the occurrence of adverse outcomes in frail older adults. Although psychosocial resources have been linked to frailty [13], they have not yet been studied in relationship with frailty outcomes. The aim of this study was to investigate whether psychosocial resources modify the effects of frailty on functional decline and mortality, by using data over a 3-year period from the Longitudinal Aging Study Amsterdam (LASA) [14].

Methods

Design and study sample

We used data from LASA, an ongoing study on physical, emotional, cognitive and social functioning of older adults in the Netherlands. The sampling and data collection of LASA have been described in more detail elsewhere [14]. In summary, a nationally representative survey was conducted in 1992–93 among 3107 respondents aged 55 to 85 (birth years 1908–1937). Follow-up measurements are collected approximately every 3 years. Data are collected in a face-to-face main interview

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and in a separate medical interview (including clinical tests) in the respondent's home by trained interviewers. In 2002–2003 a new cohort (N = 1002, birth years 1938–1947) was added to the study. The LASA study received approval from the medical ethics committee of the VU University Medical Center. Signed informed consent was obtained from all study participants.

For the present study, we used data from two recent measurement waves of LASA (Timepoint 1, T1 = 2005–06 and Timepoint 2, T2 = 2008–09). A 3-year period was chosen, because an essential part of the concept of frailty is that it increases the risk of adverse health outcomes within a limited time period. The sample consisted of respondents who participated in the main interview and the medical interview at T1, who had data on frailty and psychosocial resources at T1, and who had data on at least one of the outcome measures at T2 (mortality or functional decline). There were 2165 participants at T1 in the main interview, of which 1805 participants completed the medical interview (83.4%). Because of missing data on frailty and psychosocial resources (N = 140), 1665 participants (92.2%) were included in the analyses on mortality (T2 mortality status was available for all participants). By T2, 166 participants dropped out of the study, 74 had participated in a telephone interview only and 38 had no data on T2 functional

limitations (FLs), leaving 1387 participants eligible for inclusion in the analyses on functional decline (see flow chart in Fig. 1).

Measurements

FLs were assessed by self-report. At T1 and T2, participants were asked whether they had difficulty performing seven daily tasks: walking up and down a 15-step staircase without resting, getting undressed, sitting down and rising from a chair, cutting own toenails, walking 5 min outdoors without resting, using own or public transport and bathing or showering [15]. The response categories were: (0) no difficulty, (1) with some difficulty, (2) with much difficulty, (3) only with help, and (4) not able to do. The FL score of the seven items ranged from 0 to 28, with higher scores indicating more FLs.

Frailty was assessed with the criteria based on the frailty phenotype: weight loss, weak grip strength, exhaustion, slow gait and low physical activity [1]. Our measures and cut-offs were identical or similar to those by Fried et al. [1]. For those measures not identical (gait speed, physical activity), the lowest quintile approach was used [16]. Weight loss was present if a participant lost 5% or more body weight over a 3-year follow-up [17]. Body weight was measured with respondents wearing

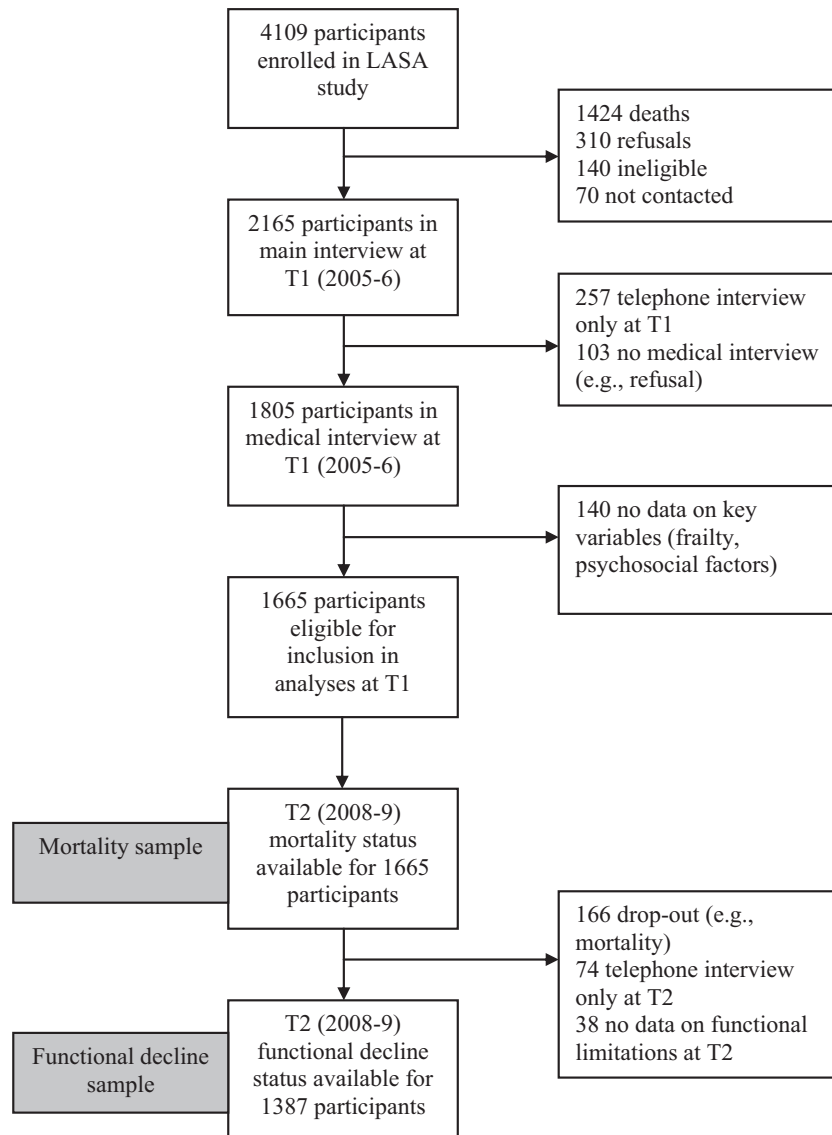


Fig. 1. Flow chart of the study population.

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