Original Article

Multidomain Geriatric Screen and Physical Fitness Assessment Identify Prefrailty/Frailty and Potentially Modifiable Risk Factors in Community-Dwelling Older Adults

Laura BG Tay, [1]*MBBS, MRCP*, Melvin PW Chua, [1]*MBChB, FRCP*, Ee Ling Tay, [2]*MSc*, Hiu Nam Chan, [3]*MBDietSt*, Shi Min Mah, [2]*MSc*, Aisyah Latib, [4]*BSc*, Cheryl QY Wong, [4]*BSc*, Yee Sien Ng, [1]*MBBS, FRCP*

Abstract

Introduction: Frailty begins in middle life and manifests as a decline in functional fitness. We described a model for community frailty screening and factors associated with prefrailty and frailty and fitness measures to distinguish prefrail/frail from robust older adults. We also compared the Fatigue, Resistance, Ambulation, Illnesses and Loss of weight (FRAIL) scale against Fried frailty phenotype and Frailty Index (FI). Materials and Methods: Community-dwelling adults ≥55 years old were designated robust, prefrail or frail using FRAIL. The multidomain geriatric screen included social profiling and cognitive, psychological and nutritional assessments. Physical fitness assessments included flexibility, grip strength, upper limb dexterity, lower body strength and power, tandem and dynamic balance and cardiorespiratory endurance. Results: In 135 subjects, 99 (73.3%) were robust, 34 (25.2%) were prefrail and 2 (1.5%) were frail. After adjusting for age and sex, depression (odds ratio [OR], 2.90; 95% confidence interval [CI], 1.05-7.90; *P* = 0.040) and malnutrition (OR, 6.07; 95% CI, 2.52-14.64; *P* <0.001) were independently associated with prefrailty/frailty. Prefrail/frail participants had significantly poorer performance in upper limb dexterity (*P* = 0.030), lower limb power (*P* = 0.003), tandem and dynamic balance (*P* = 0.031) and endurance (*P* = 0.006). Except for balance and flexibility, all fitness measures differentiated prefrail/frail from robust women. In men, only lower body strength was significantly associated with frailty. Area under receiver operating characteristic curves for FRAIL against FI and Fried were 0.808 (0.688-0.927, *P* <0.001) and 0.645 (0.546-0.744, *P* = 0.005), respectively. Conclusion: Mood and nutrition are targets in frailty prevention. Physical fitness declines early in frailty and manifests differentially in both genders.

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[1]Department of General Medicine, Sengkang General Hospital, Singapore
[2]Physiotherapy Department, Sengkang General Hospital, Singapore
[3]Department of Dietetics, Sengkang General Hospital, Singapore
[4]Health Services Research and Evaluation, SingHealth, Singapore
Address for Correspondence: Dr Laura Tay Bee Gek, Department of General Medicine, Sengkang General Hospital, 110 Sengkang East Way, Singapore 544886.
Email: laura.tay.b.g@singhealth.com.sg