

COMPREHENSIVE INDEX OF FRAILITY: A MULTI-DIMENSIONAL CONSTRUCT FROM THE HONG KONG CENTENARIAN STUDY

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Introduction

Frailty is a global epidemiological and clinical phenomenon that can lead to poor long-term outcome. A better understanding of its components is essential for future developments of management strategies. We sought to assess the incremental validity of a new Comprehensive Index of Frailty over Frailty Index in predicting self-rated health and functional dependency amongst the oldest-old adults.

Methods

We conducted a cross-sectional community-based centenarian study. A quota sampling method was used to recruit a geographically representative sample of 124 community-dwelling Chinese near- and centenarians. Two validated instruments (Chinese Longitudinal Healthy Longevity Survey and Elderly Health Centre questionnaire) were administered through face-to-face interviews. Frailty was first assessed using a 32-item Frailty Index (FI-32). Then a new Comprehensive Index of Frailty (CIF) was constructed by adding 12 more items in the psychological, social/family, environmental and economic domains to the FI-32. Hierarchical multiple regression was used to explore whether the new CIF provided significant additional predictive power for self-rated health and instrumental activities of daily living (IADL) dependency.

Results

Mean age was 97.7 (SD 2.3) years, range 95 to 108 years, and 74.2% were female. Using the Frailty Index for reference, 16% of our participants were non-frail, 59% were pre-frail, and 25% were frail. Frailty according to FI-32 significantly predicted self-rated health and IADL dependency beyond the effect of age and gender. Inclusion of the new CIF into the regression models provided significant additional predictive power beyond FI-32 on self-rated health, but not IADL dependency.

Conclusions

Psychological, social/family, environmental and economic factors are essential elements of a frailty assessment tool. Our result supports the concept that a comprehensive model of frailty should be a multi-dimensional and multi-disciplinary construct. Future studies should validate this construct in different settings and age groups, using our new Comprehensive Index of Frailty.