to evaluate items for inclusion and subsequent analyses validated the scale. The interRAI-based NH Frailty Scale was developed from an analysis of more than 100 items from the MDS, with death, hospitalization, and clinical judgment being close to death as dependent measures. The resulting 21-item frailty scale represents domains of function, cognition/communication, clinical symptoms, medical diagnoses, and treatments. Scale scores extended from zero to 14 with the average frailty score of 4.45. Incidence of death within the 120-day follow-up period increased steadily for those with a frailty score of 6 and above. When we saw an improvement on the NH Frailty Scale, we also found lower distress rates on each measure, serving to validate the scale. Because of the large number of frail elders within their facility, US nursing homes are best positioned to assume the leadership and implement routine frailty screening and assessment, based on the MDS, a tool currently in use in nursing homes.

FRAILTY ASSESSMENT MEASURE FOR THE ELDERLY (FAME): A FRAILTY MEASURE DEVELOPED IN AN ASIAN POPULATION

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Most frailty measures have been developed in non-Asian populations. We aimed to develop a comprehensive frailty measure (Frailty Assessment Measure for the Elderly-Physical, Psychological and Social [FAME-PPS]), hypothesizing FAME-PPS to be more accurate than a 'physical frailty only' measure (FAME-P) in predicting a composite health outcome among elderly Singaporeans. Data from a longitudinal survey combined with administrative information on healthcare use and mortality was utilized; those without ADL limitation at baseline (n=4564) were included. Based on the frailty phenotype model and recommendations for holistic frailty measures, sixteen physical (e.g. body mass index [BMI], hand grip strength [HGS]) or psychological (e.g. depression) or social (e.g. social networks) frailty variables assessed at baseline were considered. Logistic regression, modelling their association with the composite outcome (incident ADL limitation/prolonged or frequent hospitalization/frequent emergency room visits/death), was used to develop FAME-P and FAME-PPS. Cutoffs, defining robust, pre-frail and frail states, for the chosen measure were based on Youden's index and positive likelihood ratio. The 14-item FAME-P comprised BMI, HGS, mobility, age, gender and number of chronic diseases, and the 43-item FAME-PPS additionally included cognition, depression, social networks, financial adequacy and living arrangement. The shorter FAME-P was chosen; its area under the curve (0.741) was similar to FAME-PPS (0.747). FAME-P's predicted probability (range: 0–1) for the composite outcome was cutoff at 0.38 and 0.82 to define robust (<0.38), pre-frail (0.38–0.82) and frail (>0.82) states; their prevalence in the analytical sample was 43%, 49% and 8%, respectively. The 14-item FAME-P can be used among community-living Asian elderly.

FRAILTY-FREE LIFE EXPECTANCY IN OLDER MEXICAN AMERICANS

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The objective of this study was to examine the total life expectancy (TLE), frailty-free life expectancy (FFLE), frailty life expectancy (FLE), pre-frailty life expectancy (PFLE), and frailty free-disability life expectancy. Data are from an 18-year prospective cohort study of 2438 non-institutionalized Mexican American aged 67 years and older from the Hispanic Established Population for the Epidemiological Study of the Elderly (1995/96–2004/05). Frailty was defined as meeting two or more of the following: unintentional weight loss of > 10 pounds, weakness, self-reported exhaustion, and slow walking speed. Total life expectancy and frailty-free life expectancy were estimated using the interpolation of Markov chain method. At baseline, 54.4% participants were non-frail, 32.8% were pre-frail, and 15.8% were frail. For men, the TLE at age 67 was 15.5 years, the FFLE was 6.5 years, the PFLE was 5.4 years, and the FLE was 3.6 years. For women, the TLE at age 67 was 17.5 years, the FFLE was 6.5 years, the PFLE was 6.5 years, and the FLE was 4.5 years. For men, frailty free-disability LE was 2.7 years and with disability was 1.1 years. For women, frailty free-disability LE was 2.5 years and with disability was 2.1 years. For men, pre-frailty free-disability LE was 5.1 years and with disability was 0.4 years. For women, pre-frailty free-disability LE was 6.0 years and with disability was 0.8 years. This study showed that at every age, women had fewer years in non-frailty state and more years of LE in pre-frail state, frail state, and with disability.

FUNCTIONAL LIMITATIONS, FRAILTY AND QUALITY OF LIFE IN MALNOURISHED, GERIATRIC PATIENTS AT HOSPITAL DISCHARGE

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Hospitalized, geriatric patients often have poor nutritional status, which is associated with increased complications and a reduction in quality of life. We evaluated functional limitations, frailty status and quality of life in geriatric patients with malnutrition or at nutritional risk at discharge from an acute geriatric clinic. Malnutrition screening was performed in patients without cognitive limitations with the Mini Nutritional Assessment–Short Form (MNA-SF) (Risk: 8–11 points, Malnutrition: <8 points). Frailty was evaluated according to the Fried criteria (Fried 2001); whereby maximum isometric hand strength (dynamometry) and walk time were measured, and weight loss, exhaustion and physical activity were documented by standardized questioning. Self-reported functional limitations were

evaluated with the Longitudinal Amsterdam Aging Study (LASA) questionnaire. Quality of life was recorded using the EQ5D5L-Index (5 dimensions: mobility, self-care, usual activities, pain/discomfort, anxiety/depression) and Visual Analogue Scale (EQ-VAS). 204 patients were included in the analysis (77.5 ± 6.3 years, 59.8% women). 106 (52.0%) patients were at nutritional risk and 97 (47.5%) were malnourished. Malnourished patients were more often frail than those at risk (60 (30.8%) vs. 30 (15.4%), $p < 0.001$). Self-reported functional limitations were more pronounced in malnourished patients (17.3 ± 6.2 vs. 14.3 ± 5.6 from max 30 points, $p = 0.001$), while quality of life did not differ (EQ5D5L-Index and EQ-VAS). The majority of patients reported having problems in all dimensions of the EQ5D5L. Malnourished patients had objectively measured as well as subjectively reported limitations at hospital discharge but did not differ in quality of life compared to patients with nutritional risk.

HEALTH LITERACY AND ORAL HEALTH BEHAVIORS DECREASE THE RISK OF ORAL FRAILTY IN JAPANESE ELDERLY

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Aim: As the cumulative risks of poor oral health, so-called ORAL FRAILTY, for adverse health outcomes have recently received considerable attention, identifying predictors of oral frailty is essential. Continuous maintenance of oral health is required to prevent tooth loss and dental diseases; its routine practice, however, depends on individual habits and abilities. Therefore, improving both health literacy (HL) and oral health behaviors may prevent oral frailty. We aimed to clarify whether HL and oral health behaviors decrease the risk of oral frailty among community-dwelling elderly. **Methods:** A total of 821 Japanese elderly (72.1 ± 5.2 years old; 47% women) were randomly selected from disability-free residents in Kashiwa City. They participated in the baseline survey in 2012, and follow-up surveys in up to 2016 (4 years). Oral frailty, which was determined by six-item according to previous report, was assessed in 2012–2016. Communicative and critical health literacy (CCHL), tooth brushing habits, and dental visits were examined by self-reported questionnaire. **Results:** At baseline, the mean value of CCHL was $4.0 (\pm 0.6)$; 81% of participants brushed their teeth ≥ 2 times daily; 74% annually visited a dentist. During follow-up, 40% of participants had new-onset of oral frailty. Participants with higher CCHL or brushing teeth ≥ 2 times daily showed significantly decreased risk of oral frailty [adjusted hazard ratios (95% confidence interval): 0.73 (0.55–0.98); 0.83 (0.69–0.99), respectively]. **Conclusions:** Both high HL and tooth brushing might be associated with new-onset of oral frailty, suggesting that improving these factors routinely could contribute to prevention of oral frailty.

LOW MUSCLE MASS AND LOW MUSCLE STRENGTH FOR THE PREDICTION OF ADVERSE OUTCOMES AMONG COMMUNITY-DWELLING OLDER PEOPLE

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According to recent guidelines, diagnosis of sarcopenia requires the simultaneous evaluation of muscle mass and function. We studied the individual contribution of low muscle mass (LMM) and low muscle strength (LMS) in predicting incident mortality and disability in a cohort of community-dwelling older people participating in the InCHIANTI Study. LMM was defined according to skeletal muscle index (obtained from bioelectrical impedance analysis) and LMS was determined measuring grip strength. Study outcomes were death and 3-year incident disability (defined as loss of ability to walk 400m or reduction in speed in the worst quartile). Five-hundred-thirty-two participants (mean age 76.9 years, women 53.4%) were included in the analysis. In an unadjusted model, people who had LMM, LMS or both showed higher mortality risk compared to the fit group (hazard ratio [HR] 2.99, 95% C.I. 1.4–6.41; 4.45, 95% C.I. 1.97–10.07 and 3.46, 95% C.I. 1.4–8.55, respectively). After adjusting for sex, age and chronic comorbidities, LMM and LMS, but not their combination, were still associated with mortality. The positive predictive values were 0.08, 0.17, 0.23 for LMM, LMS and their combination, respectively; the negative predictive value was 0.97. None of the indices was significantly associated with 3-year disability (relative risk 0.89, 95% C.I. 0.6–1.29; 1.14, 95% C.I. 0.51–2.2; 1.32, 95% C.I. 0.65–2.4, respectively). In conclusion, the presence of LMM or LMS seems to be associated with an higher mortality risk, but their combination does not. These indices may be useful to identify people at low risk of adverse outcomes.

PERFORMANCE-BASED AND SELF-REPORTED FRAILTY IN OLDER ADULTS WITH AND WITHOUT FIBROMYALGIA

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Frailty, defined as weakness, low physical activity, exhaustion, and slowness, affects 7–12% of older adults in the United States. Previous research on frailty has been conducted primarily with self-report measures (e.g., the Tilburg Frailty Indicator). A unique aspect of the current research was its inclusion of both objective and self-report measures to assess frailty. The purpose of the study was to determine whether individuals with and without a chronic pain condition, fibromyalgia (FM), demonstrated differences in frailty, and if frailty varies by time since diagnosis among those with FM. The sample included 198 participants (54% with FM) aged 50 to 87 years ($M = 63.47$, $SD = 8.80$). Individuals were first-time participants recruited from four waves of a longitudinal study (2008, 2010, 2012, 2014) combined for