Background
Between 2000 and 2040, the elderly frail population will be multiplied by 2.5 to affect 10 million people aged 65 years and over. Previous epidemiologic studies have highlighted that functional limitations are frequent and multidimensional (associated with functional, cognitive and sensorial decline). Currently, the evidence for the protective role of physical activity or nutrition (action isolated) on cognitive and functional decline are well known but few studies have examined the impact of multidomain interventions. The effectiveness of such interventions must be demonstrated in the current randomized trials (MAPT, Do-health, Mid-frail, Finger, preVida).

It seems important to study rates of adherence and attrition factors (motivation and barriers for these frail elderly) to participate in a prevention program of long-term. To determine the target population to prevent disability in elderly, consideration of the most relevant definition of sarcopenia is necessary. The design of trials related to the relevant nutritional factors (vitamin D and the Oral Nutritional Supplement (ONS)) is also currently discussed.

Research questions
What are the relevant nutritional interventions (Vitamin D, ONS)? Results
What is a target population (what is a relevant definition of sarcopenia)?
What are the associated factors of adherence in a multidimensional intervention program?

Search for a relevant definition of sarcopenia: Results from the cross-sectional EPIDOS study.

Study sample: sectional analysis included data from 3,025 non-disabled women aged 75 years or older without previous history of hip fracture from the inclusion visit of the EPIDémiologie de l’OSteoporose (EPIDOS) study. A total body composition measurement was available for 2753 women.

Association between self-reported physical dysfunction and each sarcopenia definitions.

Original Publication


4. Dupuy C, Andreas S, Gillette S, Cantet C, Coley N, Rolland Y, Vellas B, Predictors of adherence to multidomain intervention after 6 months of follow-up to prevent cognitive decline in a MAPT Study (in preparation)

Vitamin D and Muscle Mass (MM)
Study sample: 1989 women without vitamin D supplementation in the EPIDOS Study. 209 have a low muscle mass (10.5%).

In the final model, obesity/overweight (Adjusted Odds Ratios, aOR=0.06; 95%CI: 0.03-0.11; p<0.001) and low hand grip strength (aOR=2.6; 95%CI: 1.16-4.23; p<0.001) were statistically associated with a low MM status.

The cross-sectional design limits the exploration of the relationship between vitamin D dietary intakes and MM. The self-administered dietary assessment method used to determine the dietary intakes of vitamin D may not be relevant in older adults.

Indicators of Oral Nutritional Supplements use in Nursing Home (NH) in France: A Cross-Sectional Study
The SQUARE Study: a multicentric individually tailored control trial of education and professional support to NH staff, involving 175 NH and 6275 NH residents-ONS were prescribed for 7.8% (n=489). In a multivariate logistic regression, the resident-related factors associated with the prescription of ONS were age, low body mass index, weight loss in the previous two months, disability in activities of daily living, pressure sores, and hospitalization in the last 12 months. NH-related factors associated with ONS prescription were: presence of a dietitian (OR=1.65 [95%CI 1.00-2.75]), training in geriatrics of the coordinating physician (OR=3.9 [95% CI 1.34-11.14]), organization of evening snack (OR=1.9 [95% CI 1.13-3.7]), number of general practitioners working in the NH (OR=0.4 [95% CI 0.21-0.74]) and number of treatments (OR=0.95, 95% CI 0.93-0.97).

Our results suggest that training of the physician in geriatrics and education and professional support to NH staff are associated with ONS use. These results highlight the importance of the compliance to the MI. These results highlight the importance of the functional status to implement the MI in this target population.

Predictors of adherence to multidomain intervention (MI) after 6 month of follow-up in the MAPT Study
In the MAPT study, a total of 837 participants were randomized into the MI1 in 13 French cities. We examined the predictors of adherence at 2 phases of the MAPT Study: adoption (the first 2 months based on the intensive program) and transition (based on the recall program during months 3 to 6).

During the adoption phase, adjusted predictors of adherence were gait speed (OR=2.48 [95% CI 1.06-5.77]), hypertension (OR=0.90 [95% CI 0.83-0.99]), depression (OR=0.89 [95% CI 0.81-0.98]).

Gait speed seems to be a consistent factor associated the compliance to the MI. These results highlight the importance of the functional status to implement the MI in this target population.

Figure: Adherence and absence rates

Online data availability for patients.