Introduction: Frailty can be defined as a state of increased vulnerability, with mutually exacerbating cycle of negative energy balance, sarcopenia, and diminished strength and tolerance for exertion. Frailty and malnutrition are frequent conditions in elderly.
Objective: Study the relationship between malnutrition and frailty in elderly.
Methods: A cross-sectional study with 66 hospitalized elderly patients (>65 years). Frailty was defined by the 9-point Clinical Frailty Scale (CFS). Nutritional status was analyzed by Mini-nutritional Assessment-Short Form (MNA-SF, >12 well-nourished, 7–12 under risk, <7 malnourished), anthropometric measures (body mass index, BMI; ideal adequacy of weight by Lorentz formula; mid-arm muscle circumference – MUAMC, <70% severe, 70–80% moderate and 80–90% mild malnutrition) and albumin (normal >3 g/dL). The risk of nutrition-related complications was calculated by Geriatric Nutritional Risk Index (GNRI, >98 no risk, <98 under risk). Categorization in two groups: G1 with CFS ≤6 (normal to moderately) and G2 with CFS >7 (severely frail).
Results: (1) There were included 38 patients in G2, with mean age of 82.1 ± 6.3 years (vs 84.4 ± 5.2; p = 0.116). (2) The mean MNA-SF in G2 was 8.2 ± 3.2 (vs 12.2 ± 2.5; p < 0.01), 44% with MNA-SF <7 (p < 0.001). (3) G2 had lower BMI (22.3 ± 3.3 vs 25.4 ± 4.7; p = 0.003), lower adequacy of weight (101.1 vs 112.9%; p = 0.011), and lower MUAMC (76.8 ± 13.3 vs 84.5 ± 14.6 cm^2; p = 0.053). (4) G2 had more hypoalbuminaemia (52 vs 21.6%; p = 0.046). (5) G2 had lower GNRI (87.4 ± 15.5 vs 98.5 ± 13.4; p = 0.005) and 52.9% were already at risk of malnutrition-complications. (<98, p = 0.185).
Conclusions: Because of the role of nutritional deficiency in the development of frailty, it is important to provide good nutritional support, avoiding health status deterioration and disability in older people.

P-340
Instrumented 6-minutes walk test, an approach to improve the traditional test

A. Galán-Mercant[1,2], T. Tomás[3], B. Fernandes[3]. *[1]University of Jaén, [2]IBIMA Institute, University of Malaga, Spain; [3]Escola Superior Tecnología de Saude de Lisboa, Portugal*

Introduction: Exercise testing is frequently used to assist clinicians in assessing prognosis and evaluating response to treatment. The 6-min walk test is a standardized test of functional exercise capacity.
Objectives: The aim of the present study was to identify and describe the anthropometric characteristics, gait velocity and instrumented 6-min walk test with kinematics parameters from inertial sensor during the test in a Portuguese population of subjects over 65 years.
Methods: They were measured variables related with anthropometrics, the 6-min walk test and kinematics variables in the 6-min walk test related with accelerations and angular velocity.
Results: The results were; six minutes walk (359,26 ± 107.49 meters), initial heart rate (72,95 ± 7,74BPM), final initial heart rate (80,58 ± 13,86 BPM), initial systolic blood pressure (148,42 ± 21,25 mmHg), final systolic blood pressure (164,26 ± 24,49 mmHg), initial diastolic blood pressure (75,63 ± 11,04 mmHg), final diastolic blood pressure (77,00 ± 9,52 mmHg), gait velocity (1,04 ± 0,37 m/s), max rotation rate X (1,05 ± 0,36 rad/s), min rotation rate X (−0,82 ± 0,33 rad/s), max rotation rate Y (2,63 ± 0,96 rad/s), min rotation rate Y (−1,69 ± 0,81 rad/s), max rotation rate Z (1,03 ± 0,33 rad/s), min rotation rate Z (−1,12 ± 0,38 rad/s), max acceleration X (0,77 ± 0,37 m/s^2), min acceleration X (−0,91 ± 0,44 m/s^2), max acceleration Y (0,53 ± 0,23 m/s^2), min acceleration Y (−1,25 ± 0,70 m/s^2), max acceleration Z (0,49 ± 0,14 m/s^2), min acceleration Z (−0,96 ± 0,34 m/s^2).
Conclusions: The only one outcome in 6-min walk the test (total distance in meters), could be complemented with inertial sensor information. This new complement could be interesting in order to understand other dimensions in the 6-min walk or identify changes in function and results in the test after a program to improve physical fitness.

P-341
Fatih province – Geriatric Study: fragility and contributing factors in old population living the community

S. Gonultas[3], A. Ersoy[3], G. Bahat[1], C. Kilic[1], F. Tufan[1], S. Avcı[2], M.A. Karan[1]. *[1]Division of Geriatric, Department of Internal Medicine, Faculty of Istanbul Medicine, Istanbul University, [2]Division of Geriatric, Department of Internal Medicine, Faculty of Cerrahpasa Medicine, Istanbul University, [3]Faculty of Istanbul Medicine, Istanbul University, Istanbul, Turkey*

Aim: In this abstract, we aimed to investigate fragility prevalence and contributing factors among the old population living in Fatih/Istanbul province.
Material and methods: Age range of 60–101 were taken into the study. The fragility screened with FRAIL-questionnaire, functional capacity measurement with KATZ-Activities-of-Daily-Living-Scale(ADL) and LAWTON-BRODY-Instrumental Activities–of-Daily Living Scale (IADL), quality of life measurement with EQ5D-questionnaire, cognitive status with Mini–Cog-test, depression with GDS-SF, malnutrition with MNA-SF, balance and gait with Romberg-test and postural-instability-test, were evaluated accordingly. We measured muscle mass with bioimpedance analysi s(TANITA-BC532). We evaluated muscle mass using Baumgartner index (skeletal muscle kg/$length^2$). According to our, low muscle mass(young adult average-2SD) and muscle threshold values national data, low muscle mass values are <9.2 kg/m^2 vs 7.4 kg/m^2; <32 kg vs <22 kg in men and women respectively. We defined sarcopenia as decrease in sarcopenic muscle mass and muscle function (muscle strength/OYH) as stated in EWGSOP definition. Obesity diagnosis is evaluated using two alternative method advised in literature:fat percentage >=60 percentile among old case population values (Zoico methodology) or BMI >=30 kg/m^2 (WHO definition).
Findings: We included 204 old cases(94 male–110 female). Average age:75,4 ± 7,3 years.30.4% of the cases were normal,42.6% were pre-frail and 27% were frail. There significant differences in these groups in terms of age/number of diseases/drugs/hand grip strength/daily life activities/EGYA/cognitive state/SÇT (p = 0.001) /MNA/ GDS/Eq-5D score and health state subjective scoring (p < 0.001); BMI (p = 0.032), OYH (p = 0.03), BIA-fat (p = 0.021) and muscle mass (p = 0.019). On the other hand, there were no significant differences in calf diameter (p = 0.25, visceral fat level (p = 0.71). While there were significant differences between the fragility groups, in terms of presence of malnutrition/fear of falling/UI/chronic pain/Romberg's sign/postural instability/ambulation level/presence of depression (p < 0.001)/ dementia (p = 0.001)/falling in past year (p = 0.011) and sex (p = 0.004), there were no significant differences in presence of diabetes (p = 0.90), hypertension (p = 0.065, fecal incontinence (p = 0.10). In regression analysis, independent factors to fragility were (dependent variable fragility (robust vs prefrail + frail), independent variables: age, sex, disease and drug number, muscle strength, egya and EQ-5D scores; cognitive dysfunction-depression, MN, falls, presence of chronic pain) drug number (OR = 1.24, p = 0.036), cognitive dysfunction (OR = 0.3, p = 0.016), EQ-5D (OR = 1.53, p = 0.017).
Results: Our study is a strong study in multiple factors are taken into account regarding fragility. Our results indicate that multiple drug usage, cognitive-dysfunction and low-life-quality perception are related major factors regarding fragility.

P-342
Comprehensively preventive approach against multi-dimensional frailty in the elderly: impact of social engagement

K. Iijima[1], T. Tanaka[2], K. Takahashi[1], K. Toba[3], K. Kozaki[4], M. Akishita[2]. *[1]Institute of Gerontology, The University of Tokyo, [2]Department of Geriatric Medicine, The University of Tokyo Hospital, [3]National Center for Geriatrics and Gerontology, [4]Department of Geriatric Medicine, Kyorin University School of Medicine*

Introduction: Frailty is accelerated by sarcopenia, age-related muscle loss, and is largely overlapping geriatric conditions upstream of the disabling cascade. These multi-dimensional frailty are affected from