Conclusions: This study suggests that there is an association between the upper extremity function and balance performance in older adults. Clinicians should focus on development of balance performance to enhance performance of the upper extremity function or vice versa.

P-432

The association between the lower extremity muscle strength and performance in balance and walking in older adults

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Objectives: In older adults, balance and walking are important prerequisites for the independent life and high performance of activities of daily living. The aim of this study was to investigate the association between the lower extremity muscle strength and performance in balance and walking in adults older than 60 years.
Methods: This cross-sectional study included older adults from community and a nursing home. The muscle strength of hip abductors and knee extensors were assessed with a hand-held dynamometer. The performance in balance and walking were assessed with commonly used clinical tools including the Berg Balance Scale (BBS), Timed Up and Go (TUG), TUG-cognition, and Four Step Square Test (FSST), 10-Meter Walk Test (10MWT), and Six-Min Walk Test (6MWT). Fear of falling was assessed with the Fall Efficacy Scale - International (FES-I).
Results: There were 80 participants with a median age of 75 (min-max: 60–90) years. There were significant correlations between the muscle strength of hip abductors and knee extensors and BBS, TUG, TUG-cognition, FSST, 10MWT, 6MWT, and FES-I ($p < 0.05$).
Conclusions: This study has indicated that there was an association between the lower extremity muscle strength and performance in balance and walking in older adults. Fear of falling was also associated with decreased lower extremity muscle strength. It is important to assess the lower extremity muscle strength for both the identification of decreased performance in balance and walking and the development of better preventive rehabilitation programs in older adults.

P-433

Determinants of gait speed in female older adults

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Objectives: Reduced gait speed is associated with a higher risk for falls, disability, hospitalization, and increased mortality in both frail and well-functioning healthy older adults, especially among females. A better understanding about the predictors of gait speed in older female adults is very important to design interventions that can improve their gait speed. The aim was to identify factors affecting the gait speed in female older adults.
Methods: In total, 44 female participants older than 60 years were included in this cross-sectional study. The 10-Meter Walk Test (10MWT) was used to assess the gait speed. The lower extremity muscle strength, mobility, balance, activities of daily living, fear of falling, physical activity, and exercise capacity were assessed with commonly used clinical tools, including hand-held dynamometer assessments, Berg Balance Scale, Timed Up and Go Test (TUG), Four Step Square Test, 30-s Chair Stand Test (30CST), Fall Efficacy Scale-International, Barthel Scale, Rapid Assessment of Physical Activity, and Six-Min Walk Test.
Results: The 10MWT was significantly correlated with age, height, and all the performed measures ($p < 0.05$). The 30CST and TUG were the strongest determinants of 10MWT, explaining 95% of the variance (adjusted $R2 = 0.95$).
Conclusions: The results of this study have indicated that gait speed was associated with performance in lower extremity muscle strength, mobility, balance, activities of daily living, fear of falling, physical activity, and exercise capacity. The functional lower extremity strength, balance and mobility should be considered the first while designing the interventions that can improve gait speed in female older adults.

P-434

The prevalence of frailty in older people admitted to hospital with vertebral fragility fractures

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Introduction: Vertebral fragility fractures (VFF) are the most prevalent fragility fracture. Despite adjustment of risk factors and co-morbidities, it is associated with significant mortality felt to be related to an underlying frailty syndrome within this cohort. This evaluation aims to identify the degree of frailty among hospital patients admitted with VFF using clinical frailty scales.
Methods: Patients >65 years old were screened over 6 weeks using the hospital radiology system for a radiological diagnosis of vertebral fracture. Data was collected on patients' demographics, mobility (timed-up-and-go test, TUG), activities of daily living (Barthel Index), cognition (abbreviated mental test, AMT) and frailty. As there is no universally accepted frailty scale, the PRISMA-8, Groningen Frailty Index (GFI), and Edmonton Frail Scale (EFS) were selected as these were advocated by a national document on frailty management. Cut-off points to indicate frailty were ≥ 3 for PRISMA-7; ≥ 4 for GFI; and ≥ 8 for EFS.
Results: Data was collected from 24 patients [16 female (66.7%); 8 male (33.3%)] with a mean(SD) age of 81(8.3). Pertaining to patient characteristics, average co-morbidities were 3 per-patient; 19 patients (79.2%) were admitted with a fall; 75.0% had a fall in the past year (range 1–10); 83.3% were taking ≥ 4 medication; 29.2% needed assistance with daily living; Barthel Index mean(SD) was 17(4); AMT mean(SD) was 8(3); and 75.0% needed >20 sec to perform a time-up-and-go test. Fractures were centred on the thoraco-lumbar region (T7-L5; 94.3%). With regards to the frailty indices, PRISMA-7 identified 70.8% of patients as frail; 66.7% on GFI; and 33.3% according to EFS. A further 20.8% were considered vulnerable to frailty on the EFS. A total of 29.2% were frail on all 3 three indices.
Conclusion: A significant proportion of patients with VVF in hospital are frail with co-morbid conditions related to older people. Treatment of VVF in hospital needs to include management of their frailty using a multidimensional interdisciplinary process, the comprehensive geriatric assessment.

P-435

Geriatric study in the district of Fatih: Sarcopenic obesity in the elderly population: how frequent?

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Aim: The aim of this paper is to determine the prevalence of sarcopenic obesity in the elderly population of the Fatih District that take part in this geriatric screening survey.
Materials and methods: Bioelectrical-impedance- analysis (BIA) (TANITA-BC532) was used to measure the muscle weight. The muscle mass was evaluated with Baumgartner index (skeleton muscle weight/height 2). Low muscle weight (average of young adults-2SD) and the threshold for muscle strength are evaluated as the following according to our national data -men and women respectively, low muscle weight: <9.2 kg/m^2 vs 7.4 kg/m^2; <32 kg vs <22 kg. In addition, value of class-1 low muscle weight was determined as 10.1 and 8.2 kg/m^2. The definition of sarcopenia was determined through

EWGSOP algorithm and reduction of low muscle weight (SMMI) and muscle functions (OYH or muscle strength). The definition of obesity was evaluated through two alternative procedures, which are recommended by the literature as Zoico methodology: the percentile of fat belonging to elderly population is >=60 or WHO definition: BMI >=30 kg/m^2.
Results: 204 of elderly population was recruited in the study (110 women-94 men). The average age is 75.4 ± 7.3. The features of the study population including gender differences are summarized in Table 1. The determination for sarcopenic obesity was absent in both genders according to WHO definition, whereas the determination for sarcopenic obesity was present as %4.6 for males and %2.1 for the entire population according to Zoico methodology.
Conclusion: The fact that our study determined the SO as 0 according to the WHO criteria suggests that with this methodology, sarcopenia is absent in obese cases. Therefore we suggest that Zoico methodology could be more convenient in evaluating SO.

P-436
Improvement in health perception of patients after an interventional program in a geriatric day hospital (GDH): a prospective observational study

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Objectives: To ascertain whether admission to a GDH modifies health self-perception and each of the Quality-of-life (QOL) dimensions using the Nottingham Health Profile (NHP) instrument.
Method: A prospective observational study that included all the patients admitted and discharged from GDH between January 2007 and December 2011 who were attended during a minimum of 7 sessions. Evaluated parameters at admission and discharge were: Barthel and Lawton indexes, Folstein's Mini-Mental State Exam, Charlson index for comorbidity, Geriatric Depression Scale, Timed Up&Go test, Tinetti walking test and NHP for health self-perception. Patients with Mini-Mental <10, aphasia or poor collaboration were excluded. Both, the total score and the dimensional score from NHP (pain, emotional reactions, energy, sleep, social isolation, physical mobility) were analyzed, with results ranging from 0 to 100 and a higher score indicating worse health perception.
Results: Out of 369 patients, 38 (10.2%) were excluded and in 85 (25.6%) NHP was not register at the time of discharge, remaining 246 for study. Average age was 76.9 ± 10.5 being 58.9% women. A significant improvement was found in NHP total score (admission: 35.7 ± 20.9 vs. discharge: 30.5 ± 21.2, p = 0.000), and the dimensions physical mobility (50.1 ± 29.6 vs. 41.9 ± 29.3, p = 0.000), social isolation (22.6 ± 22.4 vs. 18.6 ± 20.8, p = 0.006), pain (33.5 ± 30.1 vs. 26.8 ± 29.1, p = 0.000), and emotional reactions (35.1 ± 27.7 vs. 26.6 ± 26.1, p = 0.000).
Conclusions: Admission to a GDH may improve global health perception of patients, particularly the dimensions of physical mobility, social isolation, pain and emotional reactions. Further studies should confirm these results.

P-437
The relationship between health-related physical fitness, balance and fear of falling in healthy elderly fallers and non-fallers

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Objectives: Declining physical fitness, increased falling risk and fear of falling (FOF) can be observed in elderly people over aged 65. In the last stages of life, these situations are important in terms of morbidity, mortality and economic costs. The aim of this study was to examine the relationship between health-related physical fitness and falling risk, FOF in healthy elderly fallers and non-fallers.
Methods: 76 elderly (67 female, 9 male) whose mean age was 72.76 ± 6.58 years were included in the study. Participants were grouped as fallers and non-fallers. For the measurement of health related physical fitness, chair stand test (CST), modified push up test (MPUT), six minute walking test (SMWT), flexion, extension, right and left lateral flexion flexibility of trunk tests were applied to the subjects. Falling risk and FOF were evaluated by Berg balance scale (BBS) and Tinetti's Fall Efficacy Scale (TFES) respectively.
Results: 29(%39.2) subjects had reported one or more falls and 47(% 61.8) subjects had not reported a fall. BBS and TFES had a positive and medium significant correlation with CST (rBBS:,506; rTFES:,449), MPUT (r:,529; rTFES:,445), SMWT (r:,604; rTFES:,436), extension (r:,490; rTFES:,356), right lateral flexion (r:,536; rTFES:,349) and left lateral flexion (,544; rTFES:,335) flexibility of trunk tests. Non-fallers had better aerobic endurance and flexion of trunk flexibility than fallers (Chi-square test, p < 0.05).
Conclusion: Our results support that falling risk and FOF increases with declining physical fitness. However, falling history affects aerobic endurance and lower body flexibility in healthy elderly.
Keywords: physical fitness; falling risk; fear of falling.

P-438
The investigation of relationship between physical activity level and physical performance in elderly people living at home

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Objectives: Physical inactivity is an important problem which may affect daily activities by decreasing physical performance. The aim of this study was to examine the relationship between physical activity level and performance more closely in elderly people living at home.
Methods: Fifty volunteer elderly people, 36 males and 14 females, aged between 65 and 85 years participated in this study. The Seven Day Physical Activity Recall Questionnaire (SDPARQ) for physical activity level and 4- Meter Walk Gait Speed Test (4MWGST), five repetition sit to stand test (5RSST) and standing tests (ST) which are the subtest of the Short Physical Performance Battery (SPPB) for physical performance were used.
Results: The average age of elderly people was 69.89 ± 4.95 years and the average Body Mass Index (BMI) of the subjects was 28.01 ± 4.22 kg/cm^2. SDPARQ scores showed a positive and moderate significant correlation with 4MWGST scores (r = 0.318; p = 0.024) and, 5RSST scores (r = 0.556; p = 0.01). There was not a correlation between SDPARQ and ST (r = 0,094; p = 0,516).
Conclusion: The results of our study showed that the increase in physical activity affects physical performance positively among the elderly.
Keywords: physical activity; physical performance; elderly people.

P-439
Maximal oxygen consumption, dynamic balance and quality of life in community dwelling elderly with different physical activity level

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Objectives: It is accepted that physical activity level (PAL) has a major effect on cardiorespiratory fitness, balance and the quality of life. The aim of this study is to compare VO2max, dynamic balance and the quality of life in elderly with different physical activity levels.
Methods: Totally, 84 elderly (74 female, 10 male) were divided into two groups as the group with low PAL (Group 1, n = 43) and the group with high PAL (Group 2, n = 41). Cardiorespiratory fitness was evaluated by calculating maximal oxygen consumption (VO2max) during six minute walk test. Dynamic balance and quality of life were assessed with Time up and go test (TUGT) and the SF-36 quality of life questionnaire respectively.