	Age>75	Sex M vs F	Residence	Hepatic Disease	CRF	OCFA	Dementia	CHF	Diabetes mellitus	Charlson i. >2
HR	1.05	1.32	1.48	3.25	1.87	1.46	1.46	2.50	1.11	1.98
IC	(1.04–1.06)	(1.21–1.44)	(1.36–1.60)	(2.17–4.86)	(1.60–2.18)	(1.30–1.64)	(1.30–1.62)	(2.07–3.00)	(1.02–1.22)	(1.73–2.26)

Conclusions: Among women with high risk of future fracture, having been told by a health care provider that they had osteoporosis/osteopenia was independently associated with considering taking medications for osteoporosis. Our results suggest that in considering osteoporosis intervention design efficiency and effectiveness, women's recognition of a diagnosis of osteoporosis/osteopenia are critical components to be considered when attempting to influence stage of behaviour transitions.

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THU0473 TREND OF MORTALITY AFTER OSTEOPOROTIC HIP FRACTURE IN A PERIOD OF 17 YEARS

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Background: It is known that the mortality after a hip fracture is increased with respect to the general population. However, the trend of mortality is a controversial issue.

Objectives: The objective of this study is to analyse the incidence, trend and factors associated with mortality in patients with osteoporotic hip fracture.

Methods: This is a retrospective cohort study using the Minimum Basic Data Set (MBDS) of our hospital that collects a minimum data set at hospital discharge. We identified patients older than 45 years who suffered an osteoporotic hip fracture during the period from 1999 to 2015. (3992 hip fractures). The demographic data and comorbidities were obtained from the exploitation of the MBDS and the Income Nursing Assessment Form (subgroup of 810 patients). The identification of the deceased was obtained by consulting the MBDS and the INDEF (National Death Index facilitated by the Ministry of Health). A survival analysis was performed (regression of Cox and Kaplan-Meier). The incidence rate, standardised mortality index (SMI) was calculated with respect to the mortality of the general population of Madrid (mortality data of the general population obtained INE), trend (Poisson regression) and risk (Hazard Ratio) for the different clinical and demographic variables.

Results: The cumulative incidence of mortality was 72.69% in the study period. The crude mortality rate at 1, 3, 6 months and 1 and 3 years was 9.2%, 17.4%, 24.6%, 33% and 56%, respectively. In men it was 13.7%, 25%, 32.7%, 43.3% and 65.6% and in women 7.9%, 15.7%, 22.3%, 30%, 53.2%. The median overall survival was 886 days (95% CI: 836–951), with 576 for men and 998 for women. A statistically significant reduction in median survival was observed throughout the study period. The IME was 8.3 (95% CI: 7.98–8.59); (similar values in men and women). The clinical-demographic variables that showed a statistically significant association with mortality are shown in the following table 1 (HR and p-value):

Other variables that showed statistical association were: presence of auditory and visual alterations, incontinence (urinary and faecal) and the total score on the Norton scale and the Downton scale.

Conclusions: We found an increase in mortality (or decrease in median survival) of patients with hip fracture during the last 17 years. An increase in mortality has been observed in patients with hip fracture related to age, male sex, diabetes, hepatic disease and living in a nursing home.

Disclosure of Interest: None declared

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THU0474 UTILISATION OF ANTI-OSTEOPOROTIC DRUGS IN REAL-WORLD DATA: AN ANALYSIS OF PERSISTENCE TO THERAPY AND RISK OF FRACTURE

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Background: Osteoporosis is a chronic progressive disease characterised by low bone mass and deterioration of bone structure, leading to an increase risk of fractures. It is a major public health problem, affecting hundreds of millions of people worldwide. The primary aim of pharmaceutical therapy is to reduce the risk of osteoporotic fractures. However, long-term adherence to therapy is required for optimal therapeutic benefit for patients with osteoporosis. Poor adherence is considered to be one primary reason for suboptimal clinical benefit.

Objectives: The aim of this study was to investigate the determinants of non-persistence and impact of persistence on the risk of fractures by using administrative databases.

Methods: We conducted a retrospective cohort study using administrative data from four local health authorities in the Abruzzo Region (Central Italy), which comprise about 9 00 000 inhabitants (68% of the overall regional population). The final cohort consisted of a total of 7862 patients, aged ≥60 years, identified through records of filled prescriptions for an antiosteoporotic drug between January 1, 2006 to December 31, 2006. The primary outcome of this study was persistence at one year. Persistence was defined as the length of time (in days) from the date of the index prescription to the date of discontinuation therapy.

Results: Kaplan – Meier analysis showed that 3733 patients (47.5%) were persistent with antiosteoporotic drugs after 1 year. An adjusted analysis showed that there is a big difference in persistence between women and men: women are more likely to be non-persistent than men (HR:1.94). Switcher patients were more likely to be non-persistent (HR:1.22). The odds of fracture were significantly higher for patients with previous fractures in comparison with those without previous fractures [OR, 1.70, (95% CI, 1.12–2.59)] (table 1)

Table 1 Logistic regression model: impact of persistence and other factors on the risk fracture

Characteristics	Unadjusted OR (95% CI)	p-value	Adjusted OR (95% CI)	p-value
Gender				
Male	Reference			
Female	1.31 (0.93–1.85)	0.119	1.28 (0.91–1.82)	0.159
Age				
60–69	Reference			
70–79	1.54 (1.14–2.06)	0.005	1.52 (1.13–2.06)	0.006
≥80	2.56 (1.89–3.45)	< 0.001	2.49 (1.83–3.39)	< 0.001
Previous fractures				
No	Reference			
Yes	1.71 (1.58–1.84)	< 0.01	1.70 (1.12–2.59)	0.013
Persistence				
No	Reference			
Yes	0.78 (0.63–0.97)	0.022	0.79 (0.63–0.97)	0.026
ACCI				
Zero score [0]	Reference			
Mild score [1–4]	0.86 (0.32–2.36)	0.772	1.35 (0.49–3.78)	0.562
Severe score [≥5]	1.50 (1.06–2.12)	0.022	1.33 (0.94–1.90)	0.112

Conclusions: Persistence with antiosteoporotic drugs is a significant predictor of incurring a fracture. For these reasons, improving osteoporosis treatment compliance and persistence represents one of a major challenge for the future.

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THU0475

INCIDENCE AND DETERMINANTS OF VERTEBRAL AND PERIPHERAL FRACTURES IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS: A PROSPECTIVE LONGITUDINAL COHORT STUDY

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Background: Systemic lupus erythematosus (SLE) is associated with an increased risk of fractures¹. However, data on the incidence of vertebral and peripheral fractures are limited. In particular, data on (morphometric) vertebral fracture incidence and determinants of such fractures are scarce and show conflicting results.

Objectives: To assess the incidence of fractures in a population of patients with SLE, and to identify determinants that predict incident vertebral and peripheral fractures.

Methods: A prospective longitudinal cohort study in 145 patients with SLE was performed. Serial bone mineral density (BMD) measurements using dual x-ray absorptiometry, and radiographs of the thoracic and lumbar spine were performed at inclusion and after a median of 5 years (IQR 3–5) follow-up. Demographic and clinical data were also collected. Vertebral fractures were scored according to the semi-quantitative method by Genant *et al.* Reported peripheral fractures were confirmed by x-rays. Analyses were performed with logistic regression (forward selection procedure, p-value of 0.05 as cut-off level). The outcome measures were incident fracture in general (yes/no), vertebral fracture (yes/no), and peripheral fracture (yes/no).

Results: Of the 145 included patients, 131 (90%) were females and 100 (69%) Caucasian. The mean age was 41 years (SD 12) at baseline, and median follow-up was 7.2 years (IQR 6–12). A total of 42 incident fractures (vertebral and peripheral) occurred during 998 patient years. The incidence rate of vertebral and peripheral fractures was 2.0 per 100 patient years (95% CI 1.30–3.13), and 2.20 per 100 patient years (95% CI 1.45–3.35), respectively.

Any fracture (both vertebral and peripheral) was predicted by postmenopausal status and Caucasian ethnicity. Vertebral fractures were predicted by age, in which the older the SLE patient, the higher the odds of getting vertebral fractures. Peripheral fractures were predicted by history of stroke, postmenopausal status and moderate alcohol use (1–12 units per week). Use of higher dosages of alcohol (>13 units per week) did not reduce peripheral fracture occurrence. Table 1 shows the final prediction models.

Conclusions: The results of our study suggest a twofold increased risk of both vertebral and peripheral fractures in SLE patients compared to the general population^{1,2}. Age, Caucasian ethnicity and postmenopausal status are important risk factors for incident fractures in SLE. In addition, special attention should be paid to SLE patients with a history of stroke since this subgroup of patients is at high risk of peripheral fractures.

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THU0476

SPONTANEOUS VERTEBRAL FRACTURES AFTER DENOSUMAB DISCONTINUATION: A REPORT OF 6 CASES

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Background: Denosumab (Dmab) is an antiresorptive treatment with demonstrated efficacy in osteoporosis. However, discontinuation of Dmab has been associated with rapid bone loss, and recently, the development of vertebral fractures (VF) in some patients. It is essential to identify the risk factors for these adverse events and follow its evolution.

Objectives: To analyse the clinical characteristics, parameters of bone metabolism and evolution of patients developing VF after Dmab discontinuation.

Methods: Six women with spontaneous VF after Dmab discontinuation were included (median age 66 years^{56–75}). The clinical history, cause of osteoporosis, treatments received, fractures, Dmab treatment duration and discontinuation period were reviewed. Additionally, the clinical and densitometric evolution, and bone mineral parameters were also analysed after Dmab discontinuation.

Results: All the patients had postmenopausal osteoporosis, and one was receiving glucocorticoid treatment; 3/6 patients had previous fractures (2 VF and 1 calcaneus); 4/6 had previously received antiosteoporotic treatment (hormone replacement therapy, risendronate, alendronate, zoledronate [once or consecutively]) during 1–23 years. All had received Dmab for 24–53 months (median 37). The reasons for treatment discontinuation were: dental indication (1 patient), BMD improvement (T-score –1.2) (1 patient), poor adherence,¹ prescription problems and/or delay in administration.³ The median bone mineral density T-scores prior to VF were –2.6 (–1.2/–4) at the lumbar spine and –3.0 (–0.6/–3.7) at the femoral neck. The mean time between the last Dmab dose and VF was 9.5 months,^{8–20} with a median of 5 VFs/patient.^{2–8} No patient showed 25-OH vitamin D<20 ng/ml. After Dmab discontinuation, bone turnover markers increased (median increase +364% in PINP and +287% in NTx); one patient presented hypercalcaemia (Ca 11.3 mg/dL); and BMD decreased 1%–21% in the lumbar spine and 2%–6% in total hip at 8–19 months. After VF, 3 patients restarted Dmab, 1 received zoledronate and 2 alendronate. No new fractures occurred during follow-up.

Conclusions: Discontinuation of Dmab is associated with an increase in bone turnover markers and bone loss which can be associated with the development of spontaneous VF. Previous bisphosphonate therapy does not seem to decrease this risk. Further studies are needed to assess the optimal antiresorptive treatment and its duration after Dmab discontinuation.

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THU0477

FACTORS ASSOCIATED WITH THE INITIATION OF TREATMENT AFTER FRAGILITY FRACTURE IN A FRACTURE LIAISON SERVICE

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Background: Adherence to treatment in osteoporosis (OP) is not adequate, so that in the first year the percentage of suspensions is between 30% and 50%, up to an adherence of 20% at 3 years. In 2012, we started in Gran Canaria a Fracture Liaison Service (FLS).

Abstract THU0475 – Table 1. Multivariate logistic regression analyses of independent explanatory variables that predict incident fracture, showing OR and 95% CI

Variables	Any fracture			Vertebral fractures			Peripheral fractures		
	OR	95% CI	P	OR	95% CI	P	OR	95% CI	P
Age				1.0	1.0–1.1	0.017			
Caucasian ethnicity	13.3	1.7–104.3	0.014						
Postmenopausal status	4.0	1.6–10.1	0.004				3.2	0.86–11.6	0.084
Past stroke							15.5	1.1–212.2	0.040
Alcohol use							Ref	Ref	Ref
- No							0.06	0.01–	0.019
- Moderate							1.9	0.62	0.634
- Heavy								0.14–24.9	