of alcoholic drinks per week, smoking status and Rapid Assessment of Physical Activity (RAPA)). Univariable ordinal logistic regression tested the relationship between pain and waking unrefreshed. The model was then cumulatively adjusted for sleep, somatic symptoms, mental health, disability and lifestyle domains. All models were age, sex and deprivation adjusted. The results of a complete case analysis were comparable to those which used multiple imputation for missing data and the results of the complete case analyses are shown. Results were expressed as odds ratios (OR) with 95% confidence intervals (CI).

Results: Of 1913 people who had complete data, 1376 (72%) woke unrefreshed on at least one day in the past month (41% 1–7 days; 31% ≥8 days). Compared to those with no pain, people with acute pain and chronic pain were two (OR 2.0, 95% CI (1.5–2.6) and 2.2 (1.9–2.7), respectively) times more likely to wake unrefreshed; those with CWP were five (5.0 (4.0–6.3)), times more likely to wake unrefreshed. Following adjustment for all other variables, the relationship between reporting chronic pain (1.5 (1.2–1.8)) or CWP (1.9 (1.4–1.5)) and waking unrefreshed was attenuated, but remained statistically significant. The reporting of acute pain was not an independent predictor of waking unrefreshed (1.4 (0.98–1.9)). Problems with sleep onset (≥8 days vs 0: 2.9 (2.0–4.1)) and maintenance (≥8 days vs 0: 5.9 (4.1–8.4)), night awakenings (≥8 days vs 0: 2.5 (1.7–3.7)), IBS (2.2 (1.2–4.0)), currently smoking (vs never: 1.5 (1.02–2.1)) and engagement in activities such as stretching and yoga (vs none: 0.8 (0.6–0.97)), physical (1.3 (1.2–1.3)) but not mental (0.99 (0.9–1.1)) fatigue, and anxiety (definite vs no: 2.4 (1.8–3.1)), but not depression (definite vs no: 1.5 (0.8–2.6)), were associated with waking unrefreshed.

Conclusions: This study suggests that among people with chronic pain, the risk of waking feeling unrefreshed may be reduced through interventions that target factors such as smoking cessation, IBS management, physical fatigue and anxiety.

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FRI0713 LOW BONE MINERAL DENSITY IS THE MAIN CONTRIBUTOR TO FALLS-RELATED HEALTH BURDEN IN THE EUROPEAN ELDERLY

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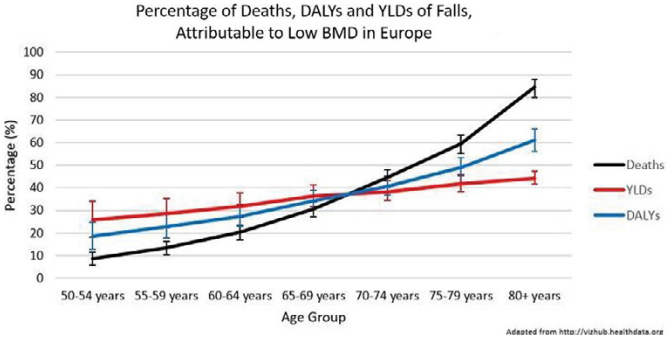
Background: Falls are the leading injury type in elderly populations and a major health burden and cause of death globally. Most of such burden is due to bone fractures. In the Global Burden of Diseases (GBD) Initiative, the attributable burden of falls due to low bone mineral density (BMD) was analysed through its relationship with fractures.

Objectives: To measure the percentage of disability-adjusted life years (DALYs), years lived with disability (YLDs) and deaths due to falls attributable to low BMD in European population for the year 2015.

Methods: The estimates followed the Counterfactual Risk Assessment Methodology used in the GBD study (1). Systematic review was performed seeking population-based studies with femoral neck (FNBMD) measured by Dual-X-Ray-Absorptiometry in people 50 years and over. Age- and sex- specific levels of mean +/-SD FNBMD (g/cm^2) were extracted from eligible studies, and this was used as the exposure variable. The age and sex-specific 99th percentile from non-Hispanic whites in the National Health and Nutrition Examination Survey (NHANES) 2009–2010 was used as theoretical minimum risk factor exposure distribution, to estimate the potential impact fraction (PIF) of FNBMD for fractures. Relative risks of FNBMD for fractures were obtained from a previous meta-analysis (2). Coded hospital data was used to calculate the fraction of falls-related deaths due to fractures. Disability levels were established by applying disability weights to each type of fracture. Then, PIFs were applied to obtain attributable deaths and disability due to low BMD.



Results: The percentage of falls-related preventable deaths attributable to low BMD is around 9% in the 50–54 age group, increasing to 84% in those aged 80 years and over. Total health burden (DALYs) and disability attribution (YLDs) also increase with age, from 19% and 25% in 50–54 years old, respectively, to 61% and 44% and population aged 80 years and above, respectively. Low BMD constitutes the most important preventable risk factors for falls-related DALYs from 50 years and above, followed by alcohol, occupational risk and smoking.

Conclusions: Low BMD is a major preventable risk factor that explains a very remarkable proportion of falls health burden in Europe, in particular in those aged 70 years and above. This is a growing concern, given the population trajectories, and requires urgent attention.

References:
[1] Forouzanfar M et al, Lancet 2016.
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FRI0714 LUPUS NEPHRITIS AND PROGNOSIS. EFFECT OF MEMBRANOUS AND OTHER COMPONENTS OF THE HISTOLOGY

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Background: In 1983 Austin et al. informed a series of prognostic factors (including histology) associated with the development of renal failure in patients with lupus nephritis (LN). Differences in actual therapies may have different hazard ratios of renal failure than the described by Austin et al.[1]

Objectives: To evaluate histological factors associated with a decline in kidney function (DKF) in patients with SLE.

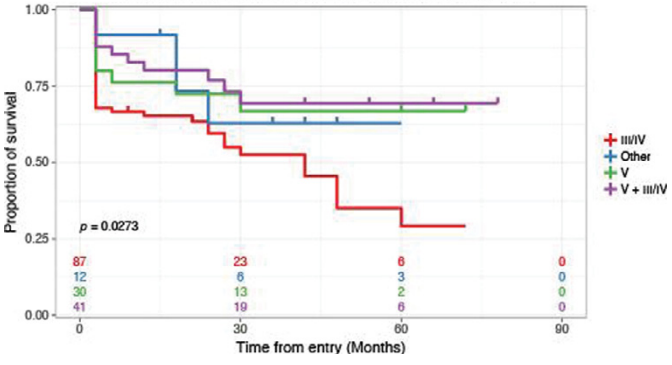
Methods: We evaluated all the patients in whom a kidney biopsy was performed. DKF was defined as a glomerular filtration rate (GFR) of less than 60 ml/min/m^2 in two determinations in the follow-up. Histology was graded according to Austin et al.[1] (activity and chronicity) by a renal pathology specialist. Factors associated with the development of DKF were evaluated through Kaplan-Meier curves and Cox regression analysis (bivariate and multivariate).

Results: At this moment, we have followed 170 patients with LN and kidney biopsy, 130 (76.5%) women, mean age at kidney biopsy was 29.7±13.2 years; classes of LN were: 71 patients (41.8%) class IV, 30 (17.6%) class V, 22 (12.9%) class III/V, 19 (11.2%) class IV/V, 16 (9.4%) class III, and other classes 12 patients; 135 patients (79.5%) have a minimum follow-up of 12 months. There were statistically significant differences in four groups of LN: pure proliferative (classes III or IV), the combination with membranous (III/IV±V), pure membranous (V) or other classes (Figure1).

Table 1. Factors associated with a DKF

Histological feature	Bivariate HR (CI)	Bivariate p-value	Multivariate HR (CI)	Multivariate p-value
Glomerular abnormalities				
Cellular proliferation	1.01 (0.83–1.22)	0.920	NA	NA
Karyorrhexis	0.94 (0.76–1.17)	0.566	NA	NA
Celular crescents	1.09 (0.96–1.22)	0.179	0.95 (0.82–1.10)	0.501484
Hyaline thrombi	0.85 (0.64–1.12)	0.248	0.65 (0.47–0.90)	0.008837
Leukocyte infiltration	1.23 (0.97–1.57)	0.0848	1.03 (0.77–1.40)	0.815447
Glomerular sclerosis	1.79 (1.41–2.26)	<0.001	1.67 (1.23–2.25)	0.000838
Fibrous crescents	1.71 (1.27–2.29)	<0.001	1.55 (1.11–2.16)	0.009917
Membranous	0.50 (0.30–0.85)	0.0105	0.48 (0.27–0.88)	0.017001
Tubulointerstitial abnormalities				
Interstitial cell infiltration	1.31 (1.13–1.56)	<0.001	1.18 (0.95–1.47)	0.126099
Interstitial fibrosis	0.80 (0.92–1.70)	0.162	0.74 (0.47–1.16)	0.194012
Tubular atrophy	1.33 (1.02–1.74)	0.035	1.10 (0.47–1.17)	0.613154

Figure 1. Decline of kidney function according classes of LN



In the bivariate analysis, factors statistically significant associated with the development of DKF were: glomerular sclerosis, fibrous crescents, interstitial cell infiltration and tubular atrophy; having membranous component resulted as a "protector" factor for the development of DKF. The Cox regression model included all the factors with a p-value less than 0.25 in the bivariate analysis; independent factors associated with increased HR of DKF were glomerular sclerosis and fibrous crescents; however, hyaline thrombi and presence of membranous nephritis were associated with a decreased HR of DKF. (Table 1).

Conclusions: We describe factors associated with a DKF. We found that the proliferative LN in combination with membranous have a better prognosis than pure proliferative LN. Our study could help to evaluate the effects of therapies in LN.

References:
[1] Austin HA, et al. Am J Med 1983;75:382–391.

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FRI0715 BEING A WOMAN AND HAVING KNEE OSTEOARTHRITIS INCREASES THE LIKELIHOOD OF COMORBIDITIES

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Background: Osteoarthritis (OA) is the most prevalent joint disease and the leading cause of disability from 60 years onwards. In fact, 14,8% of the Spanish population has OA.

Objectives: This study aimed to determine if there is a differential profile and greater comorbidity in women affected by symptomatic knee OA compared to a control group without OA.

Methods: The EMARTRO study was designed as an observational, multicenter, transversal study to compare probability of suffering a comorbidities based on presence of symptomatic knee OA visited by GPs. Sociodemographic, anthropometric, clinical parameters and clinical variables of interest were recorded. The probability of suffering comorbidities in each study group was estimated using the Odds Ratio estimation with conditioned logistic regression models. The HAD scale, the Goldberg health questionnaire were administered to patients and the concomitant medication was also registered. The comparison between groups was done using t-Student, Chi-square and Mann-Whitney.

Results: A total of 897 women were included with a mean (SD) age of 67.4 (6.8) years.

Osteoarthritic women were obese and had a higher BMI compared with control group, 31.2 (5.5) vs 27.5 (4.3) ($p<0.0001$), respectively. Regarding blood pressure, no differences were found in the systolic BP ($p=0.0646$) but in the diastolic, women with OA also had higher values, 77.9 (9.1) vs 75.8 (8.9) mmHg ($p=0.0005$).

In general terms, the presence of OA doubled the probability of having concomitant conditions with respect to controls [OR=2,220 (95% CI: 1,449–3,400) p=0,0002]. Likewise, women with syntomatic knee OA were more likely to have hypertension [OR=1.697 (95% CI 1.299–2.217), $p=0.0001$], venous peripheral vascular disease [OR=2.148 (95% CI 1.547–2.984), $p<0.0001$] and gastroesophageal reflux (OR=1.890 (95% CI 1.297–2.754), $p=0.0009$).

Regarding the mental health of the patients, according to the Goldberg scale, 41% of the patients with OA elicited psychopathology vs 17.8% in controls, $p<0.0001$. As for the HAD scale, there were more cases of anxiety ($p<0.0001$) and depression in the OA women ($p<0.0001$).

The greater burden of physical and mental comorbidity in the OA patients was accompanied by a higher consumption of concomitant medications ($p<0.0001$).

Conclusions: The results of the present study indicate that in patients with knee OA, being female is a risk factor for the development of concomitant pathologies. Also, the increased likelihood of suffering from hypertension, venous peripheral vascular disease and gastroesophageal reflux should determine chronic medications for the treatment of osteoarthritis.

Disclosure of Interest: None declared
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FRI0716 RISK STRATIFICATION IN YOUNG PATIENTS WITH ACUTE MYOCARDIAL INFARCTION USING THE ADJUSTED GLOBAL ANTIPHOSPHOLIPID SYNDROME SCORE (AGAPSS)

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Background: Young adults with acute myocardial infarction are a critical group to examine for the purpose of risk factors stratification and modification [1].

In the setting of underlying systemic autoimmune diseases, premature cardiovascular disease deserves even more attention in these conditions, such as antiphospholipid syndrome (APS), the most common acquired thrombophilia.

Objectives: In this study we aimed to assess the clinical utility of the adjusted Global AntiphosPholipid Syndrome Score (aGAPSS)[2] for the risk stratification of acute myocardial infarction in a cohort of young APS patients with thrombotic events.

Methods: The analysis included 83 consecutive APS patients (≤50 years old) who presented with arterial or venous thromboembolic events. Data on cardiovascular risk factors and antiphospholipid antibodies (aPL) positivity were retrospectively collected. The aGAPSS was calculated for each patient by adding the points corresponding to the risk factors, based on a linear transformation derived from the β regression coefficient as follows: 3 for hyperlipidaemia, 1 for arterial hypertension, 5 for aCL IgG/IgM, 4 for anti-b2 glycoprotein I IgG/IgM and 4 for LA.

Results: Demographic, clinical and laboratory characteristics of the cohort are summarized in Table 1. Higher aGAPSS values were observed in patients with acute myocardial infarction when compared to the others [mean aGAPSS 11.9 (S.D. 4.15, range 4–18) Vs. (mean aGAPSS 9.2, S.D. 5.1, range 1–17); T test: $p<0.05$]. Significantly higher aGAPSS values were also seen in patients with acute coronary syndrome compared to patients with a history of peripheral or cerebrovascular arterial thrombotic events [mean aGAPSS 11.9 (S.D. 4.15, range 4–18) Vs. (mean aGAPSS 6.7, S.D. 5.7, range 1–17); T test: $P<0.005$]. When separating for cardiovascular risk factors and aPL positivity, hypercholesterolemia was significantly higher in the group that developed myocardial infarction compared with patients with a history of any thrombosis and patients with a history of peripheral or cerebrovascular arterial thrombotic events (Chi square test: $p<0.0001$ and $p<0.0001$) and significantly higher rate of multiple positivity

Patients Characteristics	All (n=83)	%
Female sex	75	90
Age, mean (S.D.), years	44,6 (11,3)	
Disease duration, mean (S.D.), years	11,4 (7,8)	
Caucasians, n	82	93
Arterial thrombosis, n	53	60
Venous thrombosis, n	44	50
Acute Myocardial Infarction	13	15
PAPS, n	31	35
SLE and APS, n	44	50
Arterial Hypertension, n	27	31
Hyperlipidemia, n	16	18
LA, n	38	43
aCL IgG/M, n	65	74
IgG	60	68
IgM	35	40
Anti-Beta2GPI IgG/IgM, n	44	50
IgG	39	44
IgM	12	14
Triple aPL positivite	27	31

Table 1. Demographic, clinical and laboratory characteristics of the cohort

	Acute myocardial infarction (13)	Arterial and/or venous thrombosis (70)
Hyperlipidemia	10	9
Arterial Hypertension	4	22
LA	8	31
aCL IgG/M	11/6	51/30
Anti-Beta2GPI IgG/IgM	8/2	31/11
Triple aPL positivite	5	22

Table 2. Patients cardiovascular risk factors and aPL positivity between groups