p<0.01), and low Health Expenditure per capita (r=0.61, p<0.01); the age of RAo did not correlate with nT. A significant linear regression equation was found [F(2,32)=13.61, p<0.01, R2=0.46] in the age of RAo, Health Expenses per capita (β=0.0007; CI 95% 0.00004 to 0.001) and PM10 levels (β=-0.044; CI 95% -0.085 to -0.002).

Conclusions: The tropospheric pollutant PM10 and the components of the Health Expenditure per capita such as the provision of health services, family planning activities and nutrition activities are variables worth to further study through hypothesis-testing designs.

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AB1137 THE ROLE OF SOCIAL DETERMINANTS ON THE PREVALENCE OF RHEUMATIC DISEASES IN LATIN AMERICA. A MULTILEVEL COPCORD STUDY

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Objectives: To determine the impact of individual and regional variables on the geographic distribution of RD across six Latin-American countries

Methods: This is a secondary multilevel analysis of cross-sectional data of COPCORD studies that investigated the prevalence of RD in Argentina, Colombia, Ecuador, México, Peru, and Venezuela. Individual factors were sex, age, comorbidities, job status, and Health Assessment Questionnaire (HAQ) score. Contextual level variables were country and subject's identification as indigenous. RD predictors, including individual and regional variables, particularly indigenous status were identified with logistic regression models. The effect of contextual variables was estimated with median odds ratio's (OR) estimation.

Results: Most individuals included in this analysis came from urban areas (82.40%); their mean age was 43.12 years (95% CI 43.01–43.35); and 56.0% were women. Nearly all of them reported >1 comorbidity (94.70%) and 72.19% were economically active. The prevalence of any RD varied from 1.55% in Peru to 26.09% in Argentina. The mean prevalence of Rheumatoid Arthritis (RA) was 1.58 (range 0.64 to 2.47) (table 1). Aside comorbidities, individual level variables associated to any RD were sex (OR: 1.35; 95% CI 1.28–1.43), age (OR: 1.02; 95% CI 1.01 -1.03), and HAQ score (OR: 3.71; 95% CI 3.22–4.28). Crude comparisons showed significant variations among countries (p<0.01) and indigenous groups (OR: 1.69; 95% CI 1.58–1.81). These findings were confirmed by adjusted analysis (Median OR 1.26; 95% CI 1.14–1.38) (table 2).

Table 1. General prevalences and sample sizes across countries

Country	n	%	Prevalence %			
			Any RD	RA	OA	Fibromyalgia
Argentina	1656	3.94	26.09	2,42	3.86	0.06
Colombia	6734	16.01	6.53	0,64	5.18	0.25
Ecuador	4877	11.60	13.2	0,88	10.58	2.05
Mexico	22175	45.69	18.34	2,47	12.01	0.82
Peru	1095	2.60	1.55	0,65	0.55	0.09
Venezuela	5512	9.45	14.94	0,9	16.47	0.38
Total/General	42049	100.00	16.00	1,58	10.42	0.77

Table 2. Individual and contextual factors associated to any RD

Any rheumatic diseases	OR	p	95% IC	
Any comorbidities	1,676	<0,001	1,542	1,821
Age (yrs)	1,019	<0,001	1,017	1,022
HAQ	2,456	<0,001	2,240	2,693
Schooling level	0,970	<0,001	0,962	0,978
	MOR*	p	95% IC	
Indigenous vs. Non-indigenous	1,266	0,015	1,146	1,386

Conclusions: There common factors associated to the prevalence of RD in the region, however, the estimation of its impact varies in significant way across countries and related to the fact of belong to an indigenous group indicating an increase in the estimated ORs.

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AB1138 ENGAGEMENT IN A UK SMARTPHONE STUDY EXAMINING THE ASSOCATION BETWEEN WEATHER AND PAIN: PRELIMINARY RESULTS FROM CLOUDY WITH A CHANCE OF PAIN

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Background: Smartphones can facilitate collection of temporally-rich self-reported data, and have proven to enable large recruitment. However, their viability to support epidemiological research is uncertain due to concerns about selection bias and unsustained engagement.

Objectives: To examine the characteristics and engagement of participants in the first six months of Cloudy with a Chance of Pain, a UK smartphone-based study investigating the link between the weather and chronic pain.

Methods: Between 20th of January and 29th of February 2016, we recruited UK residents 17 years or older with chronic pain (≥3 months) who owned a smartphone. Participants received prompts from an app developed by uMotif, which they used to daily report the severity of ten pain-related symptoms. Of those who enrolled, those eligible for analysis provided sufficient baseline data to confirm they were ≥17 years old, and at least one symptom. The characteristics of those who were eligible were examined. Engagement per day was defined based on whether participants had completed any of the ten symptoms. Participants were then clustered by their engagement over time using a first-order hidden Markov models. Participant characteristics were then compared between the clusters.

Results: Of 7972 people who registered to participate, 6370 were eligible. 81% of participants were female, with a mean age of 49 years (SD 12.9). The most common diagnosis was arthritis (40% type unspecified, 19% rheumatoid arthritis), followed by fibromyalgia/chronic widespread pain (24%) and "other pain diagnosis" (23%). We identified four clusters of engagement: high (14%), moderate (22%), low (39%) and tourists (25%). Median days of data entry ranged from 1 (1–1) to 175 (IQR: 152–177) for the tourist and high engagement clusters respectively. Those in the high and moderate clusters (n=2249, 35%) engaged on at least 50% of days in the study (high: 79%; moderate: 50%). Highly engaged participants were older (median 56 (47–63)) when compared to those who were low engagers (47 (39–57)) or tourists (49 (40–58)). A lower proportion of tourists were women (76% (95% CI: 74–78), than in any other cluster (high: 82% (80–85), moderate: 84% (82–86), low: 81% (79–82)).

Conclusions: Cloudy with a Chance of Pain recruited a large sample of people with chronic pain, of whom over one in three participants engaged in smartphone-based symptom reporting for at least 50% of days in the first six months. Smartphone studies enable quick mass participation with sustained daily data entry, providing unprecedented volumes of daily data. While there may be selection bias towards older females in our study, younger men are also less likely to participate in studies using traditional data collection methods. Our study suggests that smartphones could provide a viable alternative to traditional data collection methods.

Disclosure of Interest: None declared

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AB1139 AUTOANTIBODY AGAINST COMPLEMENT COMPONENT 1Q SUBCOMPONENT IS ASSOCIATED WITH THE PATHOGENESIS OF RECURRENT PREGNANCY LOSS

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Background: In recurrent pregnancy loss (RPL), the pathogenesis of the majority of cases remains to be explained. Antiphospholipid, syndrome (APS) is one

of the disorder responsible for causing RPL and its overwhelmed complement activation recognized as a major pathogenic mechanism. Autoantibodies against complement component 1q subcomponent (aC1q) have been shown to associate with complement activation in primary APS, but the relevance of aC1q in RPL is still unclear. We hypothesized that aC1q would be associated with the pathogenesis of RPL in patients with or without APS, especially in RPL of unknown etiology.
Objectives: The aim of this study was to explore the significance of aC1q in RPL.
Methods: As a clinical study, we conducted a retrospective cross-sectional study comprising a total of 134 patients with RPL of unknown etiology, 27 with obstetric APS (OAPS), 14 parous patients with connective tissue disease (CTD) without historical obstetric/thrombotic complications and 17 parous healthy controls (HC). Serum levels of aC1q were measured using a solid-phase ELISA (Buhlmann Laboratories AG, Switzerland) and defined as positive using cut-off value of more than 15 U/mL according to the manufacturer. In murine model, 8–12 week-old female BALB/c mice were mated with isolated males and the presence of vaginal plug was defined as day 1 of pregnancy. Mice were treated with intravenous injections of anti-mouse C1q monoclonal antibody (JL-1), isotype control IgG2b or PBS. To block C5a receptor (C5aR), mice were intravenously pre-treated with anti-C5aR antibody, 30 minutes before the injection of JL-1 on day 8. Mice were sacrificed on day 16 of pregnancy and fetal resorption ratios, weight of fetuses and placentas, serum levels of C3a and immunohistochemical staining of complement components on placental tissue were compared among each group.
Results: Among RPL, OAPS, CTD and HC, 47 (35%), 8 (30%), 3 (21%) and 2 (12%) were positive for aC1q, respectively. In RPL patients, aC1q was more prevalent ($p<0.05$) and its titer was significantly higher than in HC (median and interquartile range [IQR] 12 [8–21] vs. 0 [0–4.3], $p<0.0001$) (Figure 1). In murine model, fetal resorption ratio was higher ($p<0.01$), weight of fetuses and placentas lower ($p<0.05$), and serum levels of C3a higher ($p<0.01$) in mice treated with JL-1 than in control mice. Immunohistological findings showed that complement components were more deposited on placenta in JL-1 treated mice than in control mice. Furthermore, the additional blockade of C5aR cancelled the pathogenic changes in JL-1 treated mice.

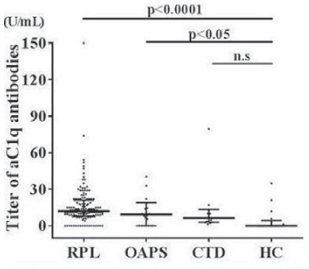

Figure 1. Titers of anti-C1q antibodies (aC1q) among recurrent pregnancy loss (RPL), obstetric antiphospholipid syndrome (OAPS), connective tissue disease (CTD) and healthy controls (HC) groups.
The titers of aC1q were significantly higher in RPL and OAPS compared to HC group (Dunn test). Horizontal bars show median and whiskers indicate the first and third quartiles.

Conclusions: Clinical findings showed that aC1q could be relevant to RPL. Moreover, we have established aC1q induced pregnancy loss model mice. Our study indicates that aC1q has a pathophysiologic role in RPL and that anticomplement therapy might be effective for at least some groups of patients with RPL for whom specific treatment remains to be established.
Disclosure of Interest: None declared
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AB1140 WHO DISABILITY ASSESSMENT SCHEDULE 2.0 IS RELATED TO UPPER AND LOWER EXTREMITY SPECIFIC QUALITY OF LIFE

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Background: Musculoskeletal complaints influence disability, but the relative contribution of concurrent upper and lower extremity health-related quality of life (HRQOL) on patient perceptions of disability is unclear.
Objectives: We evaluated whether two disease specific quality of life instruments (DASH and WOMAC) reflect a patient's perception of general disability using the WHO Disability Assessment Schedule 2.0 (WHODAS 2.0) and determined whether disability components are explained by upper and lower extremity HRQOL.
Methods: We recruited 421 randomly chosen participants 50 years or older without stroke, cancer, or history of surgery for musculoskeletal disease who participated in the Namgang Cohort. Upper extremity HRQOL was determined with the DASH score and lower extremity HRQOL with the WOMAC; as a measure of disability, we obtained WHODAS 2.0 component. Multiple regression modeling was used to assess the relative contributions made by upper and lower extremity HRQOL to disability.
Results: Most patients reported knee pain (61.0%), shoulder (17.1%), elbow (28.5%) and hand (56.1%). Mean WHODAS 2.0 total score was 28.06 (SD=14.2), corresponding to mild to moderate disability and WOMAC and DASH scores were 23.2 (SD=22.1) and 22.4 (SD=19.3). When adjusted for age, sex, level of education, spouse, self rated health, hypertention, DM and depression, the DASH total score was correlated with the getting around (β=0.137, p=0.032) and social participation (β=0.226, $p<0.001$) and the WOMAC total score was correlated with the getting around (β=0.362, $p<0.001$) and social participation (β=0.289, $p<0.001$)
Conclusions: We found that in a community-based population, perceived actibity limitation and social participation were associated with upper and lower extremity HQRQOL. Since the WHODAS 2.0 does not target a specific disease (as oppose to the DASH, WOMAC), it can be used to compare disabilities caused by different diseases.
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AB1141 PREVALENCE OF LONG-TERM STEROID THERAPY: FRENCH DATA

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Background: Corticosteroids are widely used for various diseases, from chronic respiratory conditions to auto-immune disorders. However, there are few epidemiological data about long-term steroid therapy in southern Europe (1, 2, 3).
Objectives: To describe chronic glucocorticoid prescriptions in a large cohort.
Methods: Information was collected from a national public health-insurance database that covers 4.1 million individuals and 83% of the population, in our geographic area of Provence-Alpes-Côte-d'Azur and Corsica, from September 1, 2009 through August 31, 2011. We identified subjects aged of 15 years and over starting glucocorticoid therapy. Chronic glucocorticoid therapy was defined as $\geq$7.5mg of prednisone equivalent per day during at least 90 days consecutive. We identified the incident cases of long-term glucocorticoid therapy, defined as those prevalent cases who did not fill glucocorticoid prescriptions during the first 6 months of the 24-month study period.
Results: We identified 32,812 patients who were prescribed glucocorticoid therapy, yielding 0.97% prevalence. Of these 32,812 patients, 14,205 (43.3%) met our definition of incident cases, yielding an incidence of 0.42% for 18 months in the overall population aged at least 15 years, corresponding to an incidence of long-term glucocorticoid therapy of 2.8/1000 inhabitants/year. Among these incident cases, the most currently prescribed glucocorticoids were prednisolone (64%) and prednisone (32%). Sixty-three per cent of patients received only one type of glucocorticoid while 33% received two and 5% received 3 or more of them. The average treatment duration was 270.9 days (CI 95% 267.7 – 274). Most prescriptions (55,4%) were initiated by general practitioners. The median prednisone-equivalent dose was 11mg/day (IQR, 8.8–17.8) and varied very little with age and sex.
Rheumatoid arthritis was the most common disease associated with chronic glucocorticoid prescriptions in this cohort (30%), followed by chronic respiratory failure (21%), internal medicine diseases such as connectivite tissue diseases, polymyalgia rheumatica or Giant-cell arteritis (21%), asthma (15%) and infammatory bowel diseases like ulcerative colitis or Crohn's disease (13%).
Conclusions: Long-term corticosteroid therapy is frequent in France, its description is close to what is already known in Europe.
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