JORNADA CIENTÍFICA CIBERESP

23 y 25 marzo 2021

Libro de resúmenes

https://jornadacientifica.ciberesp.es

Comité Organizador

José Ignacio Pijoan Zubizarreta
M.ª José Sánchez Pérez
Marieta Fernández Cabrera
Isabel Hervás Fernández

Comité de Dirección

Marina Pollán Santamaría	Directora Científica
Jordi Alonso Caballero	Subdirector científico
M.ª José Sánchez Pérez	P1. Epidemiología y prevención de enfermedades crónicas
Pere Godoy García	P2. Prevención, Vigilancia y Control de Enfermedades Transmisibles (PREVICET)
Juan Carlos Galán Montemayor	P3. Determinantes Biológicos, Conductuales y Estructurales en la Adquisición y Propagación de Enfermedades Transmisibles en Poblaciones Vulnerables (DAPET)
M.ª José López Medina	P4. Determinantes sociales de la salud
Marieta Fernández Cabrera	P5. Epidemiología y prevención de enfermedades de origen ambiental y laboral
Antonio Serrano Blanco	P6. Evaluación de Servicios de Salud
José Ignacio Pijoán Zubizarreta	P7. Epidemiología Clínica
Beatriz Pérez Gómez	Programa de Formación
Margarita Blázquez Herranz	Representante del ISCIII
Manuel Sánchez Delgado	Gerente

Comité Científico Asesor Externo

Henrique Barros	University of Porto Medical School
Ana Navas Acién	Columbia University
Javier Nieto García	Oregon State University
Jose María Valderas Martínez	University of Exeter
Teymur Noori	European Centre for Disease Prevention and Control
Ana Pilar Betrán Lázaga	World Health Organization

Grupos

Grupo	Jefe/a de Grupo
1	Ángela Domínguez García
2	Andrés Moya Simarro
3	Carme Borrell Thio
4	Enrique Calderón Sandubete
6	Jesús Vioque López
7	Marina Pollán Santamaría
8	Ignacio Ferreira González
9	Jordi Alonso Caballero
11	Jesús Castilla Catalán
12	Cristina Rius Gibert

13	Juan Emilio Echevarría Mayo
14	Adolfo Figueiras Guzmán
15	Victoria Serra Sutton
16	Miguel Delgado Rodríguez
17	María Manuela Morales Suárez-Varela
18	María José López Medina
19	Nicolás Olea Serrano
21	María José Belza Egozcue
22	Eulalia Martí Puig
23	Agustín Gómez de la Cámara
24	M.ª Dolores Chirlaque López
25	Fernando Rodríguez Artalejo
26	Blanca Lumbreras Lacarra
27	Jordi Casabona Barbará
28	Jesús Ibarluzea Maurolagoitia
29	Clara Menéndez Santos
30	Helmut Schröder
32	Amparo Larrauri Cámara
33	Juan Carlos Galán Montemayor
34	María José Sánchez Pérez
35	Miquel Porta Serra
36	M.ª Eulalia Alemany Vilches
38	Cristina Villanueva Belmonte
39	José Ignacio Emparanza Knörr
40	Jordi Sunyer Deu
41	M.ª José López Espinosa
42	Javier Zamora Romero
43	Xavier Bonfill Cosp
44	Aurora Bueno Cavanillas
46	Antonio Daponte Codina
47	Fernando García Benavides
50	Isabel Ruiz Pérez
51	Marc Sáez Zafra
53	Adonina Tardón García
55	Víctor Moreno Aguado
56	Jordi Figuerola Borras
57	María Carmen Muñoz Almagro
58	Antonio Serrano Blanco
Grupo asociado	Julia del Amo Valero

Presentación

Tras un año único, el 2020, donde la epidemiología y la salud pública han sido protagonistas y la labor de los miembros de nuestra red ha cobrado nuevo valor, os invitamos a esta edición de la Jornada Científica CIBERESP. Una jornada para compartir algunos de los mejores trabajos llevados a cabo por los investigadores de nuestro CIBER. La necesidad de hacer la reunión de manera telemática nos ha obligado a ajustar los tiempos y pasar a formato poster algunos trabajos de gran interés científico. Como contrapartida, la web permite explorar nuevos formatos y dar mayor visibilidad a nuestro trabajo.

Planteamos una reunión abierta, con mesas de comunicaciones COVID-19, y otras de temática libre porque, a pesar de la pandemia, en CIBERESP seguimos trabajando para conocer mejor las causas de las principales enfermedades que afectan a nuestra sociedad y la forma de prevenirlas, dar visibilidad a las desigualdades en salud y, en definitiva, proporcionar información útil para responder a los retos de la salud pública en nuestro contexto. Gracias por la labor desarrollada durante este año. Mi especial agradecimiento a los autores de comunicaciones y posters por el trabajo desarrollado que sirve para dotar de contenido científico nuestra reunión.

Será un placer compartir este espacio virtual en el que contamos con todos vosotros.

Marina Pollán Santamaría

Directora Científica de CIBERESP

¡Bienvenidos!

Tras un año único, el 2020, donde la epidemiología y la salud pública han sido protagonistas y la labor de los miembros de nuestra red ha cobrado nuevo valor, **os invitamos a esta edición de la Jornada Científica CIBERESP.** Una jornada para compartir algunos de los mejores trabajos llevados a cabo por los investigadores de nuestro CIBER. La necesidad de hacer la reunión de manera telemática nos ha obligado a ajustar los tiempos y pasar a formato poster algunos trabajos de gran interés científico. Como contrapartida, la web permite explorar nuevos formatos y dar mayor visibilidad a nuestro trabajo.

Planteamos una reunión abierta, con mesas de comunicaciones COVID-19, y otras de temática libre porque, a pesar de la pandemia, en CIBERESP seguimos trabajando para conocer mejor las causas de las principales enfermedades que afectan a nuestra sociedad y la forma de prevenirlas, dar visibilidad a las desigualdades en salud y, en definitiva, proporcionar información útil para responder a los retos de la salud pública en nuestro contexto. Gracias por la labor desarrollada durante este año. Mi especial agradecimiento a los autores de comunicaciones y posters por el trabajo desarrollado que sirve para dotar de contenido científico nuestra reunión.

Será un placer compartir este espacio virtual en el que contamos con todos vosotros.

Marina Pollán Santamaría

Directora Científica de CIBERESP

¡Hola ISABEL HERVAS FERNÁNDEZ!

Ir al programa

Programa JORNADA CIENTÍFICA CIBERESP 2021

Martes 23 marzo 2021

16.00 h. Bienvenida e inauguración

D.ª Raquel Yotti Álvarez. Directora General del Instituto de Salud Carlos III.
D.ª Marina Pollán Santamaría. Directora Científica de CIBERESP.
Emisión abierta *para todas las personas registradas.*

16.15 h. Mesa 1 de COVID-19

- **CO1**: "Predictive factors of infection, hospitalization and death by SARS-CoV-2 in the second pandemic wave". D. Jesús Castilla Catalán (Grupo 11 CIBERESP).
- **CO2**: "Regional heterogeneity in the transmissibility of the COVID-19 during the first pandemic wave in Spain". D. Olivier Nuñez (Grupo 7 CIBERESP).
- **CO3**: "The COVID-19 epidemic in Spain: Characterisation of cases and risk factors for severe outcomes". D.ª Amparo Larrauri Cámara (Grupo 32 CIBERESP).
- **CO4**: "Genomic epidemiology of SARS-CoV-2 in Spain". D. Fernando González-Candelas (Grupo 2 CIBERESP).

Moderador: D. Fernando Rodríguez Artalejo.
Emisión abierta.

17:15 h. Mesa 2 de Comunicaciones libres

- **CO5:** "Secondhand smoke exposure assessment in outdoor hospitality venues across 11 European countries". D. Xavier Continente García. (Grupo 18 CIBERESP).
- **CO6:** "In utero exposure to bisphenols and asthma, wheeze, and lung function in school-age children: a Meta-analysis". D.ª Maribel Casas Sanahuja (Grupo 38 CIBERESP).
- **CO7:** "Medication non-initiation in the pediatric population: prevalence, explanatory factors and costs". D.ª Cristina Carbonell Duacastella (Grupo 58 CIBERESP).
- **CO8:** "Psychometric validation of the Diabetes Health Profile (DHP-18) after cultural and linguistic adaptation for patients with type 2 diabetes in Quito, Ecuador". D.ª M.ª Carmen Bernal Soriano (Grupo 26 CIBERESP).

Moderadora: D.ª M.ª José López Espinosa.
Emisión abierta.

18:15 h. Sesión "CIBERESP dentro de la red colaborativa CIBER: conclusiones de la evaluación"

Prof. Ana Navas-Acién. Columbia University.
Presenta: Dr. Jordi Alonso Caballero. Subdirector Científico de CIBERESP.

Emisión cerrada, solo para miembros CIBERESP.

18:45 h. Cierre

Jueves 25 marzo 2021

16.00 h. Mesa 3 de COVID-19

- **CO9:** "Household Health and Social Survey: methodological challenges". D. Andrés Cabrera León (Grupo 46 CIBERESP).
- **CO10:** "Predictors of perceived stress and quality of life in adolescents during the COVID-19 pandemic in the INMA cohort". D. Jesús Ibarluzea Maurolagoitia (Grupo 28 CIBERESP).
- **CO11:** "MINDCOVID: Mental health Impact and NeeDs associated with COVID-19: a comprehensive evaluation in Spain". D. Philippe Mortier (Grupo 9 CIBERESP).
- **CO12:** "Knowledge transfer for clinical practice in times of pandemic: experience of a rapid answers system in two hospitals". D. Iván Solá Arnau y D.ª Iratxe Urreta Barallobre (Grupos 43 y 39 CIBERESP).

Moderadora: D.ª Victoria Serra Sutton.
Emisión abierta.

17.00 h. Mesa 4 de Comunicaciones libres

- **CO13**:" Bayesian kernel machine regression for estimating the prostate cancer risk of heavy metal mixtures in the EPIC-Spain cohort". D. Miguel Rodríguez Barranco (Grupo 34 CIBERESP).
- **CO14**:" Perceived urban environment and psychological health. The mediating role of physical activity and social cohesion". D. Mikel Subiza Pérez (Grupo 28 CIBERESP).
- **CO15**: "Risk of latent tuberculosis infection: importance of exposure time to index tuberculosis case". D. Pere Godoy García (Grupo 1 CIBERESP).
- **CO16**: "Proportion and determinants of HCV reinfection detected at incarceration among people in prisons from Catalonia, Spain (Re-HCV study)". D.ª Verónica Saludes Montoro (Grupo 27 CIBERESP).

Moderador: D. Antonio Serrano Blanco.
Emisión abierta.

18.00 h. Informe/Asamblea

D. Manuel Sánchez Delgado. Gerente de CIBER.
D.ª Marina Pollán Santamaría. Directora Científica de CIBERESP.

Emisión cerrada, solo para miembros CIBERESP.

18.45 h. Fin de la Jornada

ÍNDICE:

COMUNICACIONES ORALES

PÓSTERES

COMUNICACIONES

COMUNICACIONES ORALES

CO1. PREDICTIVE FACTORS OF INFECTION, HOSPITALIZATION AND DEATH BY SARS-COV-2 IN THE SECOND PANDEMIC WAVE.

Jesús Castilla, Ujué Fresán, Iván Martínez-Baz, Itziar Casado, Marcela Guevara.

Instituto de Salud Pública de Navarra – IdiSNA - CIBERESP, Spain.

Background. Predictive factors of SARS-CoV-2 outcomes help to address preventive messages and to establish vaccination priority. We aimed to assess the predictive factors for infection, hospitalization and death by SARS-CoV-2 in the second pandemic wave.

Methods. A prospective population-based cohort included the people covered by the Navarre Health Service. Sociodemographic variables and chronic conditions were obtained from electronic healthcare databases. Cases, hospitalizations and deaths by COVID-19 were obtained from the enhanced epidemiological surveillance from July to December 2020. People with confirmed COVID-19 before July were excluded. Adjusted rate ratios (RR) were estimated by Poisson regression.

Results. Among the 634,099 people, cumulative incidence rates per 100,000 inhabitants were: 5492 for confirmed cases, 322 hospitalizations, 38 ICU admissions and 69 deaths by COVID-19.

The incidence of confirmed cases was significantly higher in females, people aged 10-59 years, nursing home residents, healthcare workers, born abroad, as well as those diagnosed with diabetes, cardiovascular disease (CVD), COPD, chronic kidney disease (CKD), dementia, severe obesity and severe functional dependence.

The incidence of hospitalization with COVID-19 in the population was independently associated to males, higher age, nursing home residence, born abroad, hospitalization in the prior year, and those diagnosed with immunodeficiency, diabetes, CVD, COPD, asthma, CKD, stroke, cirrhosis, severe obesity and severe functional dependence.

The risk of ICU admission for COVID-19 was higher in males, older age up to 70-79 years, born abroad, patients hospitalized in the prior year, and those diagnosed with asthma and severe obesity.

The risk of death with COVID-19 in the population was independently associated to males, higher age, nursing home residence, born abroad, low-income level, hospitalization in the prior year, immunodeficiency, diabetes, CVD, COPD, CKD, dementia and severe functional dependence.

Conclusions. This results support the prioritization of COVID-19 vaccination in older population, nursing homes residents, people with certain chronic conditions and functional dependence, because they have higher risk of severe outcomes. Health care workers are at higher risk of infection, but not for severe outcomes. Foreign-born people are at higher risk of infection and severe outcomes and may have less access to vaccination.

COMUNICACIONES ORALES

CO2. REGIONAL HETEROGENEITY IN THE TRANSMISSIBILITY OF THE COVID-19 DURING THE FIRST PANDEMIC WAVE IN SPAIN.

Olivier Nuñez 1,4, Pablo Fernández-Navarro 1,4, Despina Pampaka 2,3, Clara Mazagatos2,4 María Guerrero2, Marina Peñuelas2, Miguel A Hernán5, Amparo Larrauri 2,4, Diana Gomez-Barroso 2,4.

1Cancer and Environmental Epidemiology Unit, National Center for Epidemiology, Carlos III Institute of Health, Madrid, Spain.
2 Communicable diseases unit, National Center for Epidemiology, Carlos III Institute of Health, Madrid, Spain.
3European Programme for Intervention Epidemiology Training (EPIET), European Centre for Disease Prevention and Control (ECDC), Stockholm, Sweden
4Consortium for Biomedical Research in Epidemiology and Public Health (CIBERESP), Madrid, Spain.
5 Department of Epidemiology, Harvard T H Chan School of Public Health, Boston, MA, USA; Department of Biostatistics, Harvard T H Chan School of Public Health, Boston, MA, USA; Harvard-MIT Division of Health Sciences and Technology, Boston, MA, USA.

Introduction: Analysing the evolution of the COVID-19 epidemic in a country can provide evidence of the impact of the measures implemented to reduce its spread. However, it is crucial to take into account the possible regional heterogeneity to correctly interpret this effect. The aim of this study was to describe the evolution of the COVID-19 pandemic in the different regions of Spain and to summarize the spatial heterogeneity in order to examine the effect of the public health interventions implemented during the first epidemic wave (end of January to mid-May).

Methods: To describe the heterogeneity in the evolution of the pandemic within the country, the epidemic curves observed in the different regions were classified into homogeneous groups using a clustering procedure. The clusters found were located on a map and described in relation to the dates of the measure's implementation and the daily evolution of their instantaneous reproductive numbers.

Results: In Spain, two different epidemic dynamics were identified, located respectively in the central and peripheral regions. These two dynamics differed mainly in the magnitude of the daily rate of confirmed cases and in the evolution of the reproductive number in the period preceding the national lockdown. After the implementation of this measure, the incidence decreased at a similar rate in the two identified clusters and their transmission parameters evolved in the same way.

Conclusion: During the first wave, the COVID-19 pandemic spread differently across regions in Spain. This heterogeneity could be summed up in two epidemic patterns that merged after the implementation of the national lockdown. Our results suggest that the lockdown halted the growth of the Covid-19 incidence in regions where the epidemic had already reached high levels and prevented such levels are reached in regions where the epidemic was at an earlier stage.

COMUNICACIONES ORALES

CO3. THE COVID-19 EPIDEMIC IN SPAIN: CHARACTERISATION OF CASES AND RISK FACTORS FOR SEVERE OUTCOMES.

Working group for the surveillance and control of COVID-19 in Spain.

Background: COVID-19 epidemic spread rapidly in Spain which became one of the most affected countries in Europe. The aim of this work was to describe the epidemiological and clinical characteristics of reported cases in order to identify groups at higher risk of severe outcomes and tailor control measures.

Methods: We used data from the National Epidemiological Surveillance Network to describe the PCR-confirmed cases from the beginning of the epidemic until 27 April 2020. We compared their characteristics among different severity levels (hospitalisation, admission to intensive care unit (ICU) and death) and identified risk factors for disease severity.

Results: The epidemic peaked on 20 March. Of the 218 652 COVID-19 cases, 45.4% were hospitalised, 4.6% were admitted to ICU and 11.9% died. Among those who died, 94.8% had at least one underlying disease. Healthcare workers represented 22.9% of the cases. Males were more likely to have more severe outcomes compared to females. Cardiovascular disease was a consistent risk factor across all severe outcomes. Patients with pneumonia had a higher odds of being hospitalised (OR=26.63; 95%CI:25.03-28.33). The strongest predictor of death was age ≥80 years (OR=28.4; 95%CI:19.85-40.78). Among underlying diseases cases with chronic renal disease had the highest odds of death (OR=1.47; 95%CI:1.29-1.68).

Conclusions: The COVID-19 epidemic in Spain had a severe impact on the elderly. Patients with cardiovascular or renal preconditions were at higher risk for severe outcomes. A high proportion of the cases were healthcare workers. Enhanced surveillance and control measures in these subgroups are crucial for preventing COVID-19 and mitigating transmission during this ongoing pandemic.

COMUNICACIONES ORALES

CO4. *GENOMIC EPIDEMIOLOGY OF SARS-COV-2 IN SPAIN.*

Fernando González Candelas 1,2, Iñaki Comas Espadas 2,3, por el Consorcio SeqCOVID-Spain.

1Unidad Mixta Infección y Salud Pública. FISABIO-Universidad de Valencia. Valencia).
2CIBER Epidemiología y Salud Pública. 3Instituto de Biomedicina. CSIC. Valencia.

The rapid expansion of SARS-CoV-2 has profoundly altered the life of a large majority of humankind. One of the most useful tools to face this problem is obtaining the complete sequence of the virus genome and compare it with that of other viruses. In Spain, we have established a multidisciplinary consortium integrated by research groups and laboratories from diverse fields such as clinical microbiology, sequencing, bioinformatics, epidemiology, etc. We have been funded by CSIC and ISCIII to obtain and analyze complete genome sequences of about 20000 viruses obtained in our country. In this presentation, we will show the most relevant results and accomplishments derived so far (updated information can be accessed at http://seqcovid.csic.es. We have received 11302 samples and we have obtained and deposited in GISAID (http://gisaid.org) 5379 sequences. By comparing these sequences with others from all over the world, we have observed a large number of independent introductions (>500) of the virus in the initial stages of the pandemic. Most introductions arrived from other European countries but only a few of them originated the vast majority of transmissions within Spain, mainly through superspreading events. One of these seeded a specific lineage (known as SEC8) that is genetically different from those that spread initially in other European countries and it disappeared almost completely after the lockdown. Another lineage emerged a few weeks later and it was initially detected among agricultural workers at the beginning of the summer season. It was associated to the virus spread during the second wave of the pandemics. International tracking of this variant revealed that it spread from Spain to other countries, arriving at very high frequencies in some of them. Genomic surveillance of this virus is revealing its tremendous power and potential as an instrumental tool in Epidemiology and Public Health.

COMUNICACIONES ORALES

CO5. SECONDHAND SMOKE EXPOSURE ASSESSMENT IN OUTDOOR HOSPITALITY VENUES ACROSS 11 EUROPEAN COUNTRIES.

Elisabet Henderson, Maria José López, Xavier Continente, Esteve Fernández, grupo TackSHS-WP2.

Agència de Salut Pública de Barcelona, Institut Català d'Oncologia, Universitat Pompeu Fabra, CIBERESP, CIBERER.

Introduction: Due to partial or poorly enforced restrictions secondhand smoke (SHS) is still present in outdoor hospitality venues in many countries in Europe.

Objective: This study aimed to assess SHS concentrations in outdoor hospitality venues across Europe and identify contextual exposure determinants.

Methods: Cross-sectional study. We measured airborne nicotine and evidence of tobacco use in terraces of bars, cafeterias, and pubs from 11 European countries in 2017-2018. Sites were selected considering area-level socioeconomic indicators. Measurements were taken for 30 minutes and half the sites were visited during nighttime. We noted the smell of smoke, presence of smokers, cigarette butts, ashtrays, and number of physical covers. Contextual determinants also included national smoke-free policies for the hospitality sector, the Tobacco Control Scale score (2016), and the smoking prevalence (2017-2018). We computed medians and interquartile ranges of nicotine concentrations and used multivariate analyses to characterize the exposure determinants.

Results: Nicotine was present in 93.6% of the 220 sites explored. Median concentrations were 0.85 IQR: 0.30-3.74 □g/m3 and increased during nighttime (1.45 IQR: 0.65-4.79 □g/m3), in enclosed venues (2.97 IQR: 0.80-5.80 □g/m3), in venues with more than two smokers (2.79 IQR: 1.03-6.30 □g/m3), in countries with total indoor smoking bans (1.20 IQR: 0.47-4.85 □g/m3), and in countries with higher smoking prevalence (1.32 IQR: 0.49-5.34 □g/m3). All the venues visited where smoking was already banned had people smoking. In multivariate analyses, nicotine concentrations were also positively associated with the observed number of cigarette butts. In venues with more than two smokers, SHS levels did not significantly vary with the venues' degree of enclosure.

Conclusions: Our results suggest that current smoking restrictions in outdoor hospitality venues across Europe have a limited protective effect and justify the adoption of total smoking bans for outdoor hospitality venues.

COMUNICACIONES ORALES

CO6. IN UTERO EXPOSURE TO BISPHENOLS AND ASTHMA, WHEEZE, AND LUNG FUNCTION IN SCHOOL-AGE CHILDREN: A META-ANALYSIS OF 8 EUROPEAN BIRTH COHORTS.

Alicia Abellan1,2,3,4, Rosalie Mensink-Bout5, Raquel Garcia-Esteban1,2,4, Andrea Beneito4,6, Leda Chatzi7, Talita Duarte-Salles3, Mariana F Fernandez4,8, Judith Garcia-Aymerich1,2,4, Berit Granum9, Carmen Iñiguez4,6, Vincent W V Jaddoe10, Maria-Jose Lopez-Espinosa4,6, Loreto Santa-Marina4,11, Leonardo Trasande12, Cathrine Thomsen9, Valerie Siroux13, Remy Slama13, Jordi Sunyer1,2,4, Tiffany Yang14, Carlos Zabaleta15, Martine Vrijheid1,2,4, Liesbeth Duijts5,16 *, Maribel Casas1,2,4.

1 ISGlobal, Barcelona, Spain.
2 Universitat Pompeu Fabra (UPF), Barcelona, Spain.
3 Fundació Institut Universitari per a la recerca a l'Atenció Primària de Salut Jordi Gol i Gurina (IDIAPJGol), Barcelona, Spain.
4 Spanish Consortium for research on Epidemiology and Public Health (CIBERESP), Madrid, Spain.
5 The Generation R Study Group, Erasmus MC, University Medical Center Rotterdam, Rotterdam, the Netherlands; Division of Respiratory Medicine and Allergology, Department of Pediatrics, Erasmus MC, University Medical Center Rotterdam, Rotterdam, the Netherlands.
6 Epidemiology and Environmental Health Joint Research Unit, FISABIO–Universitat Jaume I–Universitat de València, Valencia, Spain.
7 Department of Social Medicine, Faculty of Medicine, University of Crete, Rethimno, Greece.
8 University of Granada, Instituto de Investigación Biosanitaria (ibs.GRANADA), Granada, Spain.
9 Norwegian Institute of Public Health, Oslo, Norway.
10 The Generation R Study Group, Erasmus MC, University Medical Center Rotterdam, Rotterdam, the Netherlands; Department of Pediatrics, Erasmus MC, University Medical Center Rotterdam, Rotterdam, the Netherlands.
11 Public Health Division of Gipuzkoa, Basque Government, San Sebastian, Spain
12 Department of Pediatrics, New York University School of Medicine, New York, NY.
13 Team of environmental epidemiology, IAB, Institute for Advanced Biosciences, Inserm, CHU-Grenoble-Alpes, University Grenoble-Alpes, CNRS, Grenoble, France.
14 Bradford Institute for Health Research, Bradford Royal Infirmary, Bradford, United Kingdom.
15 OSI Goierri-Alto Urola, Hospital de Zumarraga, Zumarraga, Spain. Instituto de Investigación Biodonostia, San Sebastián, Spain.
16 Division of Neonatology, Department of Pediatrics, Erasmus MC, University Medical Center Rotterdam, Rotterdam, the Netherlands.

Background: In utero exposure to bisphenols, widely used in many consumer products, may alter lung development and increase the risk of respiratory morbidity in the offspring. However, evidence is scarce and mostly focused on bisphenol-A (BPA), although there are other substitutes that could also interfere with the developing respiratory system.

Objective: We aimed to estimate the association of in utero exposure to BPA, BPF, and BPS with asthma, wheeze, and lung function in school-age children.

Methods: We included 3,007 mother-child pairs from 8 European birth cohorts. Bisphenols concentrations were determined in urinary maternal samples collected during pregnancy (1999-2010). Between 7 and 11 years of age, current asthma and wheeze were assessed from questionnaires and spirometry was performed. Wheezing patterns were constructed from questionnaires across childhood. We performed adjusted random-effects meta-analysis on individual participant data.

Results: We observed widespread prenatal BPA exposure with 90% of the samples above detectable limits; BPF and BPS were detected in fewer samples. In utero exposure to BPA was associated with increased odds of current asthma (OR=1.14, 95%CI=1.02, 1.28, per doubling of concentration) and wheeze (OR=1.16, 95%CI=1.02, 1.32) at school-age among girls (p-interaction=0.01). In utero exposure to BPA was associated with a small increase in lung function in boys (forced expiratory volume in one second: β=0.03, 95%CI=0.00, 0.06 z-score, p-interaction=0.04). We did not observe associations of BPF and BPS with any of the respiratory outcomes.

Conclusions: This study suggests that in utero exposure to BPA is associated with increased odds of asthma and wheeze among school-age girls. Further research is needed exploring the effects of other bisphenols with increasing presence in daily life products.

COMUNICACIONES ORALES

CO7. MEDICATION NON-INITIATION IN THE PEDIATRIC POPULATION: PREVALENCE, EXPLANATORY FACTORS AND COSTS.

Cristina Carbonell Duacastella.

Grupo 58 CIBERESP.

Medication non-initiation implies not taking the first dose of a newly prescribed medication, having impacts on health outcomes, healthcare services and costs. Non-initiation prevalence worldwide in the context of primary care ranges between 10% and 28%, being higher in countries like United States and lower in European contexts.

Although non-initiation is a well-studied and prevalent behavior in the adult population, few studies have evaluated this behavior in pediatrics. We conducted an observational real-world evidence study using data from the entire Catalan healthcare system in 2017 and 2018 (over 1.5 million prescriptions and more than 700,000 patients). We included all new prescriptions (not previously prescribed in the previous 6 months) included in the 26 most relevant drug groups issued to any subject younger than 18 years old. Prescription was considered not initiated if it was not dispensed one month after the prescription date.

Our study showed that 9% of children did not take their newly prescribed medications. The highest non-initiation prevalence was observed in proton pump inhibitors (21.5%), and the lowest in oral antibiotics (2.6%). Explanatory factors related to the patient, such as age, copayment level and the medication cost, or to the healthcare system, such as type of prescriber or healthcare center, increased the risk of non-initiation. Results suggested that there are inequities in access to pharmacological treatments in this population that must be taken into account by healthcare planners and providers. A curvilinear relationship between age and non-initiation was observed with the higher rates of non-initiation in the youngest (0-1 year) and oldest (15-17 years) population groups.

We are currently analyzing the impact of pediatric non-initiation on the use of healthcare services and costs in anti-infective treatments. It will be included in the final presentation.

COMUNICACIONES ORALES

CO8. PSYCHOMETRIC VALIDATION OF THE DIABETES HEALTH PROFILE (DHP-18) AFTER CULTURAL AND LINGUISTIC ADAPTATION FOR PATIENTS WITH TYPE 2 DIABETES IN QUITO, ECUADOR.

Ikram Benazizi1, María del Carmen Bernal Soriano1,2, Yolanda Pardo Cladellas2,3, Aida Ribera Solé2,4, Andrés Peralta Chiriboga5, Alfonso Alonso Jaquete6, Jordi Alonso Caballero2,3, Montserrat Ferrer Forés2,3, Blanca Lumbreras1,2, Lucy Anne Parker1,2.

1. Department of Public Health, History of Science and Gynecology. University Miguel Hernández of Elche.
2. CIBER of Epidemiology and Public Health (CIBERESP), Barcelona, Spain.
3. IMIM (Institut Hospital del Mar d'Investigacions Mèdiques), Barcelona, Spain.
4. Cardiovascular Epidemiology Unit, Cardiology Service, Vall d'Hebron University Hospital and Vall d'Hebron Research Institute (VHIR).
5. Pontificia Universidad Catolica del Ecuador (PUCE), Quito, Ecuador.
6. Servicio Cántabro de Salud, Santander, España.

Introduction: The Diabetes Health Profile (DHP-18), structured in three dimensions (psychological distress (PD), barriers to activity (BA) and disinhibited eating (DE)), assesses the psychological and behavioural burden of living with type 2 diabetes.

Objective: To evaluate psychometric properties of the DHP-18 linguistically and culturally adapted to Ecuador.

Methods: We recruited participants using purposive sampling through patient clubs at primary health centres in Quito, Ecuador. Participants provided clinical and sociodemographic data and responded to the SF-12v2 health survey and a linguistically and culturally adapted version of the DHP-18. We evaluated the original measurement model with confirmatory factor analysis (CFA). We assessed internal consistency using Cronbach's alpha, and test-retest reproducibility using the intraclass correlation coefficient (ICC) after repeating the measurements in a random subgroup of participants two weeks later. To assess convergent validity we tested pre-defined hypotheses regarding the expected correlations with the SF12v2 using Spearman's coefficient.

Results: We included 146 participants, 58.2% were female, and the mean age was 56.8 years. The CFA indicated a poor fit to the original three factor model ($\chi 2$ (132) =224.56, $p<0.001$; CFI=0.872; TLI=0.852; SRMR=0.072 and RMSEA=0.069). The BA dimension showed the lowest standardized factorial loads (λ) (ranging 0.087-0.66), while λ ranged 0.48-0.81 and 0.45-0.67, for the PD and DE dimensions respectively. Cronbach's alphas were 0.81, 0.63 and 0.74 and ICCs 0.70, 0.57 and 0.62 for PD, BA and DE, respectively. Regarding convergent validity, we observed weaker correlations than expected between DHP-18 and SF-12 dimensions ($r> -0.40$ in two of three hypotheses).

Conclusions: The original model showed poor fit to the data indicating that alternative models should be tested for this version. Although reliability parameters were adequate for PD and DE dimensions, the BA presented lower internal consistency. Future analyses should verify the applicability and cultural equivalence of some items included in this dimension to Ecuador.

COMUNICACIONES ORALES

CO9. HOUSEHOLD HEALTH AND SOCIAL SURVEY: METHODOLOGICAL CHALLENGES.

Mª del Mar Rueda García (Universidad de Granada, UGR), Carmen Sánchez-Cantalejo (EASP), Ramón Ferri (UGR), Iria Enrique (Instituto de Estadística y Cartografía de Andalucía, IECA), Beatriz Cobo Rodriguez (UGR), Marina Rivas, Román Villegas, Eva Galindo, Nicola Lorusso (IECA), Maria A Barceló (Universidad de Girona, UdG), Antonio Daponte (EASP), Marc Saez (UdG), Andrés Cabrera León (EASP).

The Health and Social Survey (ESSOC) collects information on the characteristics and evolution of the general Andalusian population over 16 years of age through four measurements taken from the declaration of the first state of alarm by COVID-19 and up to 12 months later. In each measurement, the sample is made up of people already interviewed in previous measurements (longitudinal sample) and people not previously interviewed (new sample).

From telephone interviews, among other variables, those related to characteristics of the home and dwelling, use of time and coexistence, health and emotional well-being, habits and lifestyle, economic situation and sociodemographic characteristics are collected. This information is linked to clinical variables from the Andalusian Population Health Base (BPS), with geographical and environmental variables from the Andalusian Longitudinal Population Base (BLDPA) and with epidemiological variables from the Epidemiological Surveillance System of Andalusia (SVEA).

This means that this project is approached from different dimensions of knowledge with a Real World Data design, integrating observational data from multiple sources with quality information from different providers, as well as Open Science. Thus, both the ESSOC design and its different sources of information provide great methodological challenges and many possibilities of exploitation that will be exposed in the presentation.

COMUNICACIONES ORALES

CO10. PREDICTORS OF PERCEIVED STRESS AND QUALITY OF LIFE IN ADOLESCENTS DURING THE COVID-19 PANDEMIC IN THE INMA COHORT.

Nerea Lertxundi/Jesus Ibarluzea

Grupos 28, 40 CIBERESP.

Confinement can have negative effects on the stress levels and quality of life of adolescents and their mothers, with short- and long-term consequences. Knowing them is relevant for the management of confinement measures in these subgroups. Therefore, i) the perceived stress and quality of life of both mothers and adolescents of the INMA cohort after the period of confinement due to the Covid-19 pandemic will be described, ii) the risk factors and possible protective factors of acute stress related to confinement and quality of life will be analyzed, iii) correlations between mothers and adolescents will be analyzed. The sample is composed by 148 mothers / adolescents from the INMA Gipuzkoa cohort and 235 from the INMA Sabadell cohort, with a total N of 373 mothers / adolescents.

COMUNICACIONES ORALES

CO11. MINDCOVID: MENTAL HEALTH IMPACT AND NEEDS ASSOCIATED WITH COVID-19: A COMPREHENSIVE EVALUATION IN SPAIN.

Philippe Mortier and Jordi Alonso, on behalf of the MINDCOVID Working Group.

Aims: The MINDCOVID project aims to provide representative and actionable epidemiological knowledge on adverse mental health outcomes during the Spain COVID-19 pandemic.

Methods: A series of prospective cohort studies among Spanish: i) healthcare workers; ii) COVID-19 patients and their contacts; and iii) general population adults (May 2020 – May 2021). Web-based and telephone surveys screened for current Major Depressive Disorder, Generalized Anxiety Disorder, Panic Attacks, Post-Traumatic Stress Disorder, Substance Use Disorder, and Suicidal Thoughts and Behavior. A series of potential risk and protective factors for adverse mental health were assessed, including sociodemographic information (including social class and living situation), COVID-19 infection status (self/loved ones), isolation/quarantine/confinement for COVID-19, and the perceived risk and stress related to health, exposure to COVID-19, work-related changes, interpersonal relationships, and financial situation. Additional outcomes include treatment use and quality of life.

Results: To date (December 2020), data of N = 9,138 healthcare workers are analyzed. Approximately 46% screened positive for the presence of at least one mental disorder; 14.5% screened positive for a disabling mental disorder; and 3.5% reported recent active suicidal ideation. Important risk factors include pre-pandemic mental disorders, being female, having a younger age, being a nurse or auxiliary nurse, direct exposure to COVID-19 patients, having been in isolation or quarantine, having loved ones infected, perceived lack of coordination and personnel at work, and financial stress. Data on adult general population will be briefly presented.

Discussion: Results indicate an important mental health impact of COVID-19. Monitoring of the mental health of healthcare workers during the COVID-19 pandemic is indicated, and resources for mental health interventions in this subpopulation should be increased.

Funding: ISCIII-Ministerio de Ciencia e Innovación EXP: FEDER COV20/00711; Generalitat de Catalunya (2017SGR452).

References:

- Alonso J, Vilagut G, Mortier P, Ferrer M, Alayo I, Aragón-Peña A, et al. Mental Health Impact of the First Wave of COVID-19 Pandemic on Spanish Healthcare Workers: a Large Cross-sectional Survey. Rev Psiq Salud Mental (en prensa).
- Mortier P, Vilagut G, Ferrer M, Serra C, Molina Juan D, López-Fresneña N, et al. 30-Day Suicidal Thoughts and Behaviors among Hospital Workers during the First Wave of the Spain COVID-19 Outbreak. Depression Anxiety (en prensa).

COMUNICACIONES ORALES

CO12. KNOWLEDGE TRANSFER FOR CLINICAL PRACTICE IN TIMES OF PANDEMIC: EXPERIENCE OF A RAPID ANSWERS SYSTEM IN TWO HOSPITALS.

Ivan Solà (Grupo 43) Iratxe Urreta (Grupo 39).

The emergence of covid19 caused by the spread of the SARS-CoV-2 virus put the healthcare system to the edge early in 2020, since healthcare professionals had to respond to an unprecedented situation due to the lack of knowledge about the virus and the urgency to provide appropriate care to patients in a situation of extreme uncertainty. In this context, decision-making was based on indirect data accumulated from the experience with other coronaviruses or similar clinical situations, an avalanche of data from preliminary studies on SARS-CoV-2 and covid19 and a bunch of additional sources of information which spread promising data.

The need to respond to clinical questions that posed different challenges derived from the disease and the virus management highlighted the importance of being able to obtain and offer summaries of rigorous and verified information on relevant topics to healthcare professionals.

This communication will present a service to rapidly answer clinical questions created by the Clinical Epidemiology unit at the Donostia Unibertsitate Ospitalea and the Epidemiology unit at the Hospital de la Santa Creu i Sant Pau. This service was intended to provide rapid and structured answer to the clinical questions formulated by the different units and professionals from the two hospitals, and were based in a knowledge transfer methodology and the experience accumulated from the MAPAC committees for the improvement of the appropriateness in healthcare.

We will also describe the initiatives put in place to centralize the evidence synthesis experiences that were appearing to face the health crisis caused by covid19 both locally and globally, as well as the incorporation of all relevant materials in the DianaHealth database.

COMUNICACIONES ORALES

CO13. BAYESIAN KERNEL MACHINE REGRESSION FOR ESTIMATING THE PROSTATE CANCER RISK OF HEAVY METAL MIXTURES IN THE EPIC-SPAIN COHORT.

Miguel Rodriguez Barranco1,2,3, Karen dos Santos Gonçalves4, Jose Juan Jimenez Moleón2,3,5,6, Jose Luis Gómez Ariza6, Maria José Sanchez Perez1,2,3,5,6.

1) Escuela Andaluza de Salud Pública (EASP), Granada, Spain.
2) Instituto de Investigación Biosanitaria ibs.GRANADA, Granada, Spain.
3) Centro de Investigación Biomédica en Red de Epidemiología y Salud Pública (CIBERESP), Madrid, Spain.
4) National School of Public Health, Oswaldo Cruz Foundation - ENSP/FIOCRUZ, Rio de Janeiro, Brazil.
5) Departamento de Química, Facultad de Ciencias Experimentales, Universidad de Huelva, Huelva, Spain.
6) Departamento de Medicina Preventiva y Salud Pública, Universidad de Granada, Granada, Spain.

Background: Prostate cancer is the most frequent cancer in males in Spain. Environmental risk factors such as heavy metals and their associations with prostate cancer risk has been studied extensively. However, the complex interactions between heavy metals remains inconclusive.

Objective: To examine the association between the metal mixture exposure and prostate cancer risk in the European Prospective Investigation into Cancer and Nutrition cohort.

Methods: The concentrations of 15 heavy metals (As, Be, Cd, Co, Cr, Cu, Hg, Mn, Mo, Pb, Sb, Se, V, W, Zn) was assessed in serum samples of 548 males from EPIC-Granada cohort (62 prostate cancer cases and 486 controls) by means of ICP-ORS-MS. We applied a Bayesian kernel machine regression distributed lag models (BKMR-DLM) to estimate the association between log-centered serum metal concentrations with prostate cancer risk adjusted by potential confounders. BKMR-DLM were used to account for nonlinear, interactive, joint metal effects and time varying cumulative effect of heavy metals mixture exposures.

Results: Six heavy metals (Mo, Hg, Be, Sb, W, Pb) were significantly and positively associated with prostate cancer risk in the adjusted models for age, education, physical activity, waist-to-hip ratio, body mass index, dietary patterns, smoking, and alcohol drinking habits. Using BKMR-DLM analysis, the mixtures (W, Hg – RR:1,94), (Cd, Pb- RR:1,92), (Se, Cd, Hg – RR:1,91), and (Mo, W, Hg – RR:1,45) had positive and statistical association with prostate cancer. In addition, the overall mixture of all metals was also significantly associated with the prostate cancer risk, and the time varying showed a cumulative effect by 10 years of exposure.

Conclusions: In summary, we found positive associations between the serum levels of six metals and prostate cancer risk using BKMR-DLM models. The overall mixture concentrations was also

associated with increased prostate cancer risk. Future studies are warranted to validate these findings in other prospective studies.

COMUNICACIONES ORALES

CO14. PERCEIVED URBAN ENVIRONMENT AND PSYCHOLOGICAL HEALTH. THE MEDIATING ROLE OF PHYSICAL ACTIVITY AND SOCIAL COHESION.

Mikel Subiza-Pérez.

Grupo 28 CIBERESP.

Physical neighborhood attributes such as greenness, walkability and environmental pollution may have an influence on people's behavior and health. It has been claimed that part of such effects may come from the promotion of physical activity and the strengthening of social cohesion. In this study, we recruited two samples of pregnant women in two Spanish cities (Donostia-San Sebastián, 440 participants and Barcelona, 360 participants) who filled in a questionnaire and wore an accelerometer for 1 week during the first trimester of pregnancy. According to descriptive results, participants in the Donostia sample perceived their residential environment to be more green and less affected by environmental than their counterparts in Barcelona. Further, in the Donostia sample, women did more light physical activity, reported higher social cohesion and lived in households with a higher income. No differences were detected for walkability, moderate to vigorous physical activity or mental health. The influence of perceived residential greenness, walkability and environmental pollution on mental health (GHQ-12) was tested in two structural equation models that included light physical activity, moderate-to-vigorous physical activity and social cohesion as mediators. Two solutions showing excellent and good fit (Donostia-San Sebastián: X2(2) =0.19, p = .910, CFI = 1, RMSEA < .001; Barcelona: X2(2) =2.72, p = .257, CFI = .99, RMSEA = .048) consistently showed that neighborhood attributes promote mental health through social cohesion. Physical activity variables were weakly associated to neighborhood attributes and did not mediate between these and mental health. Stratified analyses revealed that the social cohesion-mental health effect was only statistically significant for low and medium socioeconomic status groups in the Donostia-San Sebastián sample. The results of this study could be of use to inspire policy addressing United Nations' Sustainable Development Goal 11 which aims to make cities inclusive, safe, resilient and sustainable.

CO15. RISK OF LATENT TUBERCULOSIS INFECTION: IMPORTANCE OF EXPOSURE TIME TO INDEX TUBERCULOSIS CASE.

I. Parrón; A. Orcau; N Follia; L Clotet; S Minguell; M Ros; J Ferras; MR Sala; I. Barrabeig; M. Carol; G Ferrús; M Sabaté; N Camps; JP Mitllet; M Jané; JA Caylà; C Rius ; A Dominguez; P. Godoy.

Grupos 01 y 12 CIBERESP.

Introduction/Objectives. Contacts of patients with pulmonary tuberculosis (TB) may present a high risk of latent TB infection (LTBI). The objective of the study was to determine the importance of exposure time between contacts and pulmonary TB index cases in LTBI risk.

Methods. A prevalence study was conducted in the contacts of pulmonary TB cases in Catalonia reported from 01/01/2019 to 31/12/2019. The study population was the contacts of all new pulmonary TB patients registered by the epidemiological surveillance system. The dependent variable was LTBI in the contacts. The main independent variable was the time of exposure: daily exposure ≥6 hours (first circle); daily exposure ≥6 hours per week (second circle); daily exposure of <6 hours per week (third circle); sporadic contact (fourth circle). Risk factors of LTBI were determined by the odds ratio (OR) and its 95% confidence interval (IC). Statistical association was determined with the chi-square test and p-value at 0.05.

Results. From 401 cases of pulmonary TB, 3341 contacts were registered, of which 46.7% were female and had an average age of 32.3 years (DE=13.5). 66 new cases of TB were detected. TB prevalence was 2.0% (66/3275). The prevalence of LTBI was 26.5% (782/2957) and was higher in those exposed >6 hours per day (OR=3.4; IC95% 2.7-4.4), in daily exposure >6 hours per week (OR=2.0; IC95% 1.5-2.7) and in sporadic exposure (OR=1.7; IC95% 1.2-2.4) compared to weekly exposure of <6 hours. The risk of LTBI was also higher among the household contacts (OR=2.7; IC95% 2.3-3.2), immigrants (OR=2.8; IC95% 2.4-3.4), smokers (OR=2.6; IC95% 2.1-3.2) and alcohol risk consumption (OR=1.8; IC95% 1.1-2.8).

Conclusions. The study detected a high prevalence of LTBI. The risk of LTBI was associated with the time of exposure to the index case and this risk was increased with smoking habit, and alcohol risk consumption and immigration.

COMUNICACIONES ORALES

CO16. PROPORTION AND DETERMINANTS OF HCV REINFECTION DETECTED AT INCARCERATION AMONG PEOPLE IN PRISONS FROM CATALONIA, SPAIN (RE-HCV STUDY).

Verónica Saludes1,2, Andrés Marco2,3, Antoni E. Bordoy1, Elena Yela4, Elisabet Turú3, Anna Not1, Evelin López-Corbeto2,5, Laia Egea-Cortés5, Fernando González-Candelas2,6, Jordi Casabona2,5, Elisa Martró 1,2*, and GRUMIP7.

1. Microbiology Department, Laboratori Clínic Metropolitana Nord, Hospital Universitari Germans Trias i Pujol, Germans Trias i Pujol Research Institute (IGTP). Badalona.
2. Centre for Biomedical Research on the Epidemiology and Public Health Network (CIBERESP). Madrid.
3. Prison Health Programme. Catalan Health Institute. Barcelona.
4. Brians-1 Prison Health Services. Sant Esteve Ses Rovires, Barcelona.
5. Centre for Epidemiological Studies on Sexually Transmitted Infections and HIV/AIDS of Catalonia (CEEISCAT), Public Health Agency of Catalonia (ASPCAT), Badalona.
6. Unidad Mixta Infección y Salud Pública FISABIO/Universidad de Valencia, Valencia.
7. Grup de Control de Malalties Infeccioses en el Àmbit Penitenciari.

Background: Since 2015, over 1,000 people with hepatitis C in Catalan prisons have been treated with direct-acting antivirals and >95% obtained a sustained virological response (SVR). However, some got reinfected and infected others, which is an obstacle to successful HCV elimination. We aimed to assess how many cases of viremic HCV infection detected at incarceration were due to reinfection and to identify reinfection determinants.

Methods: Re-HCV is a prospective study of HCV infection and reinfection post-RVS in the eight Catalan prisons. Data from a cohort of people with detectable HCV-RNA at incarceration is presented (2019-2020). Previous HCV treatment and SVR achievement were checked. Socio-demographic and clinical-therapeutic data was collected, and an epidemiological questionnaire was filled by participants regarding drug consumption and sexual practices inside and outside the prison. Proportions were compared between reinfected and non-reinfected cases, and determinants of reinfection were identified by multivariate logistic regression analysis.

Results: Among the 14,776 people entering prison and tested for HCV-RNA during the study period, 307 (2.1%) were viremic and 294 (95.8%) accepted to participate in the study; 37 (12.6%) of them were classified as reinfections. HIV coinfection and homelessness were significantly more frequent in those with HCV reinfection. Drug consumption practices significantly related to HCV reinfection were: sharing of syringes, sharing of needles, sharing of pre-prepared drugs and practicing front-backloading. Drug consumption practices inside the prison significantly related to reinfection were intravenous drug use and sharing of needles. Multivariate analysis confirmed the independent predictive value of sharing needles in prison (OR=3.3, 95% CI: 1.03-10.58). Evidence of epidemiological relatedness between certain HCV isolates from prisons and harm reduction centers was found.

Conclusion: HCV reinfection is common in people entering Catalan prisons, and is mostly associated with sharing needles in prison during previous imprisonments. In order to avoid the potential spread of HCV infection within prisons and achieve HCV microelimination, it is necessary to strengthen harm reduction programs inside and outside prisons.

PÓSTERES

PÓSTERES

ANTICIPATED HELP-SEEKING FOR CANCER SYMPTOMS AND PERCEIVED BARRIERS BEFORE AND AFTER THE CORONAVIRUS PANDEMIC: RESULTS FROM A NATIONAL SURVEY.

Dafina Petrova 1,2,3, Marina Pollán 1,4, Miguel Rodriguez-Barranco 1,2,3, Josep Maria Borrás 5,6, Maria-José Sánchez 1,2,3,7.

1 CIBER of Epidemiology and Public Health (CIBERESP), Madrid, Spain.
2 Escuela Andaluza de Salud Pública (EASP), Granada, Spain.
3 Instituto de Investigación Biosanitaria ibs.GRANADA, Granada, Spain.
4 National Center for Epidemiology, Health Institute Carlos III, Madrid, Spain.
5 IDIBELL, University of Barcelona, Barcelona, Spain.
6 Department of Health, Catalonian Cancer Strategy, Barcelona, Spain.
7 Department of Preventive Medicine and Public Health, University of Granada, Granada, Spain.

Background: The time patients wait before consulting their physician after noticing cancer symptoms contributes to diagnostic delays, which are expected to be exacerbated during the coronavirus pandemic. We compared anticipated help-seeking for cancer symptoms and perceived barriers to seeking care in the Spanish population before and after the pandemic.

Method: Two waves of the Spanish Onco-barometer survey were analyzed: Pre-Coronavirus (N=3269) collected in February 2020 and Post-Coronavirus (N=1500) collected in August 2020. Anticipated times to help-seeking and perceived barriers were measured with the internationally validated ABC instrument. Pre-post comparisons were performed for individual symptoms and barriers and also using sum scores.

Results: There was a consistent and significant increase in anticipated times to help-seeking from Pre to Post for 12 of 13 cancer symptoms, with the largest increases for breast changes (OR=1.54, 95% CI 1.22-1-96) and unexplained bleeding (OR=1.50, 1.26-1.79). Respondents were more likely to report barriers to help-seeking in the Post wave, including worry about what the doctor may find (OR=1.58, 1.35-1.84) and worry about wasting the doctor's time (OR=1.48, 1.25-1.74). Both help-seeking times and perceived barriers increased more strongly among women and older individuals (+65).

Conclusion: Participants, and especially women and older individuals, reported longer waiting times to help-seeking and more barriers after compared to before the pandemic. There is urgent need for campaigns and outreach activities encouraging people to consult their physicians with symptoms suggestive of cancer and counteracting the main barriers perceived during the pandemic situation.

AT RISK OF POVERTY AND/OR SOCIAL EXCLUSION: FAMILY ENVIRONMENT MENTAL HEALTH PROBLEMS IN CHILDREN AGED 7-11 YEARS.

L González Safont a,b, M Estarlich a,b,c, M Murcia a,b,d, FB Barreto-Zarza e,f, L Santa-Marina b,e,g, S Simó Teufel h, MI Larrañaga Padilla e,g, E Ruiz Palomino i, J Ibarluzea b,c,e, M Rebagliato a,b,j.

aEpidemiology, Environmental Health Joint Research Unit, FISABIO-UJI-UV.
bCIBERESP,
cDepartment of Infirmary and Chiropody, UV.
dHealth Information Systems Analysis Service, Conselleria de Sanitat.
eBIODONOSTIA.
fUPV/EHU.
gPublic Health Division of Gipuzkoa.
hDepartment of Basic Psychology, UV.
iDepartment of Basic and Clinical Psychology and Psychobiology, UJI.
jPredepartamental Unit of Medicine, UJI.

Aims: To assess the impact of Risk of Poverty and/or Social Exclusion (AROPE) on mental health problems in children from Gipuzkoa (age: 7 years) and Valencia (age: 11 years). 2. To study to what extent family environment plays a moderating or a mediating role.

Methods: Participants were 395 and 382 children from Gipuzkoa and Valencia, respectively. AROPE was measured through a questionnaire, and mental health problems were evaluated using the internalizing and externalizing scales of the Child Behaviour Checklist (CBCL). Family environment was assessed using three out of the five subscales (Subscale 3: Organization of the Physical Environment and Social Context; Subscale 4: Parental Stress and Conflict; and Subscale 5: Parental Profile Fostering Child Development) from the HEFAS-7-11. In Model 0, negative binomial regressions minimally adjusted for age, sex and cohort were performed to describe the relation of AROPE with the outcomes. In Model 1, related variables were added. In Model 2, interaction terms were included to check the moderation of Subscale 3. Structural Equation Modelling (SEM) with robust intervals was used to assess mediation.

Results: Valencia presented higher scores than Gipuzkoa on AROPE (median, P25-P75, p: 0.31, 0.10-0.60 vs. 0.11, 0.03-0.23, p<0.001) and internalizing (6, 3-11 vs. 5, 2-9, p<0.001) and externalizing (6, 2-10 vs. 5, 2-8, p=0.007) problems. Minimally adjusted models (Model 0) showed risks close to 2, and fully adjusted models (Model 1) showed a decrease in risks that did not affect significance. In Model 2, moderation of Subscale 3 with AROPE was found in internalizing problems. Families with the highest scores on Subscale 3 did not present any association for AROPE, while significant gradients for AROPE were found only in those with middle and low scores on Subscale 3. SEM analyses showed that Subscale 4 mediated 32% of

internalizing and 49% of externalizing problems, while Subscale 5 mediated 35% and 48% of them, respectively.

Conclusions: Participants from Valencia presented higher risks of AROPE and mental health problems. AROPE increased the risk of mental health problems. Organization of the Physical Environment and Social Context moderated internalizing problems. Parental Stress and Conflict and Parental Profile Fostering Development mediated the relation between AROPE and mental health problems in middle childhood.

CONCENTRATIONS OF BISPHENOL-A IN ADULTS FROM THE GENERAL POPULATION: A SYSTEMATIC REVIEW AND META-ANALYSIS.

Sandra M Colorado-Yohar1,2,3,14, Ana C Castillo-González1, Julio Sánchez-Meca4, María Rubio-Aparicio5, Diego Sánchez-Rodríguez6, Elena Salamanca-Fernández7,8, Eva Ardanaz2,9, Pilar Amiano2,10,11, Mariana F. Fernández2,8,12, Jaime Mendiola2,13,14, Fernando Navarro-Mateu2,4,14,15, María Dolores Chirlaque López1,2,13,14.

1 Department of Epidemiology, Murcia Regional Health Council. Murcia, Spain.
2 CIBER Epidemiology and Public Health (CIBERESP), Instituto de Salud Carlos III (ISCIII), Madrid, Spain.
3 Research Group on Demography and Health, National Faculty of Public Health, University of Antioquia, Medellín, Colombia.
4 Department of Basic Psychology and Methodology. University of Murcia. Murcia, Spain.
5 Department of Health Psychology, University of Alicante. Alicante, Spain.
6 Teaching Unit of preventive medicine and public health, Murcia, Spain.
7Andalusian School of Public Health (EASP). Granada, Spain.
8 Instituto de Investigación Biosanitaria de Granada. ibs. GRANADA, Spain.
9 Navarra Public Health Institute, IdiSNA, Pamplona, Spain.
10 Public Health Division of Gipuzkoa. Basque Government, Donostia-San Sebastián, Spain.
11 Biodonostia Health Research Institute, Donostia-San Sebastián, Spain.
12 University of Granada, Center for Biomedical Research (CIBM), Spain
13 Department of Health and Social Sciences, Universidad de Murcia, Murcia, Spain.
14 Murcia Biomedical Research Institute (IMIB-Arrixaca), Murcia Spain.
15 Unidad de Docencia, Investigación y Formación en Salud Mental, Servicio Murciano de Salud, Murcia, Spain.

Background: Human exposure to bisphenol-A (BPA), an endocrine-disrupting compound, has been linked to adverse health effects even at low doses. Therefore, BPA exposure levels in the general population may be a public health concern.

Objective: To compile and describe BPA concentrations in general human population and their variability according to sex, geographic area, and analytical method.

Methods: This systematic review and meta-analysis evaluated studies that reported BPA concentrations measured in adult human populations. Separate meta-analyses of median values were carried out for BPA in serum, creatinine-adjusted urinary BPA, and unadjusted urinary BPA concentrations with the use of a random-effects model. Cochran's Q-statistic, I2 index, and forest plot were applied to verify study heterogeneity. Sensitivity and subgroup analyses and weighted ANOVAs and meta-regressions were conducted. Funnel plots and Egger's tests were used to examine publication bias.

Results: Fifteen studies were included in the meta-analysis with 28,353 participants. BPA was detected in more than 90% of the population. The pooled creatinine-adjusted urinary BPA concentration was 1.76 µg/g (95% confidence interval (CI): 1.44-2.09), whereas the pooled estimate for unadjusted urinary BPA was 1.91 ng/ml (95% CI: 1.32-2.49), and 1.75 ng/ml (95% CI: 0-6.18) for serum BPA concentration. No differences were found by sex, geographic area or

analytical technique. Larger sample sizes were associated with lower BPA concentrations. There was large heterogeneity across studies, whereas data for urinary BPA levels suggested a publication bias affecting research in low exposed populations.

Conclusion: This first meta-analysis of human BPA concentrations highlights a widespread population exposure to BPA. A high heterogeneity was observed across studies, but no major differences in BPA levels were found by individual or analytical variables. Further studies in different populations and settings are warranted to better characterize the epidemiology of human BPA exposure, accounting for ethnic, geographic, individual and environmental variability.

COVID SUSPECTED PATIENTS IN PRIMARY CARE IN MADRID AT THE BEGINNING OF FIRST WAVE (I): CLINICAL CHARACTERISTICS AND PNEUMONIA ONSET.

Miguel Menéndez Orenga (1, 2), ORCID 0000-0003-1315-4327; Miriam Arribas Mayordomo (3), ORCID 0000-0002-3690-527X; Paula Gasser (3), ORCID 0000-0002-1766-735X; Ileana Gefaell larrondo, ORCID (4), ORCID0000-0002-1635-1003; Brenda Giusto Laureano (3), ORCID 0000-0001-6318-7886; Carolina Sardi (3), ORCID 0000-0001-7048-4432; Carolina Trovina (3), ORCID 0000-0002-8470-3939; Sara Ares-Blanco (4), ORCID 0000-0002-4984-8788.

1 - Investigador independiente.
2 - Instituto de investigación i+12 (CIBERESP), 12 de Octubre Hospital. Madrid.
3 - Centro de salud Villa de Vallecas. Madrid.
4 - Centro de salud Federica Montseny. Madrid.
**Algunas autoras carecen de segundo apellido.*

Introduction: COVID-19 is a disease with a broad clinical spectrum. Primary care should care and follow-up patients with mild and moderate cases but also identify those who are severely ill. Little information about the COVID-19 has been published in this clinical setting. Objective: to describe the characteristics of patients attended at Primary Care with a COVID-19 suspicion including pneumonia onset.

Methods: Retrospective longitudinal observational study of clinical records. Probabilistic sampling of patients attended in the circuit of suspicion of COVID-19 in 5 Primary Health Care centers in Madrid, from March 16th to 20th. Basal characteristics of patients, symptoms, respiratory rate and oxygen saturation were collected; X-ray results and hospital assistance. Descriptive analysis and time-to-event (pneumonia) analysis was performed.

Results: 240 medical stories were reviewed. Mean age was 48 years, 60% were women. Most prevalent diseases were high blood pressure (28%), chronic respiratory disease (19%) and Diabetes Mellitus (8%). Most common symptoms were cough (80%) and high temperature (63%). Most patients had a short self-limiting process. Pneumonia was diagnosed in 23%, 73% of whom had bilateral pneumonia. Median time to diagnosis was 8 days. 20% of patients were admitted to the hospital, whose mean age was 64 years. Age was related to pneumonia diagnosis. 7 patients died, all male, with a mean age of 79 years, their median day of death was day 13.

Conclusions: Most patients attended in Primary Care had a short self-limiting process, but a relevant number of them presented pneumonia or required hospital admission. Age was strongly related to pneumonia development.

COVID SUSPECTED PATIENTS IN PRIMARY CARE IN MADRID AT THE BEGINNING OF FIRST WAVE (II): HEALTHCARE ASSISTANCE AND PATIENT FLOW.

Miguel Menéndez Orenga (1, 2), ORCID 0000-0003-1315-4327; Miriam Arribas Mayordomo (3), ORCID 0000-0002-3690-527X; Paula Gasser (3), ORCID 0000-0002-1766-735X; Ileana Gefaell larrondo, ORCID (4), ORCID0000-0002-1635-1003; Brenda Giusto Laureano (3), ORCID 0000-0001-6318-7886; Carolina Sardi (3), ORCID 0000-0001-7048-4432; Carolina Trovina (3), ORCID 0000-0002-8470-3939; Sara Ares-Blanco (4), ORCID 0000-0002-4984-8788.

1 - Investigador independiente.

2 - Instituto de investigación i+12 (CIBERESP), 12 de Octubre Hospital. Madrid.

3 - Centro de salud Villa de Vallecas. Madrid.

4 - Centro de salud Federica Montseny. Madrid.

**Algunas autoras carecen de segundo apellido.*

Introduction: Health systems (HS) have adapted to COVID-19 outbreak. In Spain, Health Care response was hospital centred despite primary care is the central pillar of the HS. In Primary Care non-severe patients were followed both by phone and in-person appointments. We studied the role of primary care at the beginning of COVID-19 pandemic in Madrid.

Methods: Retrospective study in five primary care centres in the southeast of Madrid between the 16th and 20th of March 2020. Variables: daily appointments with health professionals, sick leaves, pneumonia onset. Administrative data was collected from all clinical schedules and a sample of electronic health records of patients with suspicious COVID-19 was checked.

Results: 19,027 appointments were identified: 12,540 with family physicians and 5,696 with nurses. 2.6% were home visits. 88.7% of family physician appointments corresponded to their assigned population.

The sample of 240 COVID-19 suspicious patients received 1,384 visits, 80.3% by phone, 18.8% in-person appointment and 0.5% at home. Of those patients, 59.6% were attended without X-chest ray or referral. 35.4% of patients needed a X-chest ray, pneumonia was diagnosed in 24.5% of the sample. Median day to pneumonia diagnosis was 12. Hospital referral rate was 24.6%, 57.6% of them were admitted. In our sample, 12.5% went directly to emergency department (ED), of whom 46.7% were admitted.

22.4% of family physician's working days were sick leave. The sick leaves were unequal among centres: the least affected centre had 9.3% working days and the most affected one had 41.3%. In this latter centre, median time to pneumonia diagnosis was delayed to 22 days.

Conclusions: Primary Care managed a relevant workload during the pandemic. Most patients only needed family´s physician care. Severe cases were identified and referred to ED. Sick leave were intense among family physicians, this situation could have diminished the quality of care.

PÓSTERES

COVID-19 PANDEMIC'S IMPACT ON LABORATORY CONFIRMED INFECTIOUS DISEASES IN CATALONIA.

Pilar Ciruela1,2, Maria Mercè Nogueras1, Aurora Sabrià1, Ana Martínez1,2, Sonia Broner1, Carmen Muñoz-Almagro,3,4,5 Àngela Domínguez 2,6 Mireia Jané1,2,6.

1. Health Departament. Generalitat of Catalonia;
2. CIBER de epidemiologia y Salud Pública (CIBERESP)-Grupo 01;
3. Microbiology Service H.Sant Joan de Dèu;
4. Department of Medicine, Universitat Internacional de Catalunya;
5. CIBER de epidemiologia y Salud Pública (CIBERESP)-Grupo 057;
6. Department of Medicine Universidad de Barcelona.

Introduction: During the COVID-19 pandemic, measures such as safety distance, use of a mask and increased frequency of hand washing have been incorporated in the population. In addition, with the confinement decreed from March 15th to April 26th 2020 it is possible to think that there has been a reduction in the incidence of other common infectious diseases.

Objective: The objective of the study was to describe the impact of the COVID-19 pandemic on the declarations of microbiologically confirmed infectious diseases in Catalonia.

Methods: Confirmed cases of infectious diseases that are declared to the Microbiological Notification System of Catalonia (SNMC) during weeks 1-26 have of 2019 and 2020 of been analysed. Cases of weeks 1-11 (1st period, before confinement) and weeks 12-26 (2nd period, during confinement and de-escalation phase) of 2019 and 2020 have been compared. Diseases are grouped according clinical entities: Respiratory tract infections (RTI), tuberculosis, sexually transmitted infections (STI), enteritis, meningoencephalitis, bacteremia with no apparent focus and the group of other infectious diseases (Others).

Results: 20,102 cases were reported during 2020, 41% less than 2019 (34,031 cases). During 2019 and 2020 the most frequent clinical entities have been: RTI (48.8% and 50%) and STI (29.7% and 32.5%). All clinical entities have reduced cases in 2020 between 25% (tuberculosis) and 54.9% (enteritis). The group Others have remained stable.

Comparing the 1st and 2nd period between 2019 and 2020, a sharp decrease in cases has been observed in all infectious diseases.

Stand out is the 75% decrease in confirmed cases of Chlamydia trachomatis in the second period of 2020 compared to the first period (742 cases and 2,790, respectively) and of rotavirus (reduction of 72%; 134 cases and 37 cases, respectively).

COVID-19 SEROPREVALENCE AMONG WORKERS OF THE CATALAN INSTITUTE OF ONCOLOGY (ICO) IN CATALONIA, SPAIN.

Yolanda Benavente,1,2 Saura Lázaro,1 P. Peremiquel-Trillas, 1 D.Casabonne, 1,2 A. Plans, 4 E. Fernández, 3 L. Alemany1,2 and ICOseroCOVID Investigators.

1-Cancer Epidemiology Research Programme, Catalan Institute of Oncology/IDIBELL; Bellvitge Biomedical Research Institute – IDIBELL.
2- Consortium for Biomedical Research in Epidemiology and Public Health - CIBERESP. Carlos III Institute of Health. Av. De Monforte de Lemos 5, 28029, Madrid, Spain.
3- Cancer Epidemiology and Prevention Department, Catalan Institute of Oncology. Av Gran Vía 199-203, 08908 L'Hospitalet de Llobregat, Barcelona, Spain.
4- Occupational Health Unit, Catalan Institute of Oncology. Av Gran Vía 199-203, 08908 L'Hospitalet de Llobregat, Barcelona, Spain.

Keywords: SARS-CoV-2, COVID-19, Health Personnel, seroprevalence, Risk Factors, Oncology.

Background: Cancer patients are at higher risk for severe COVID-19 infection. Hence, COVID-19 surveillance of workers from oncological centers is crucial to assess infection burden and transmission. We aimed to estimate the SARS-CoV-2 seroprevalence among the Catalan Institute of Oncology (ICO) workers, a comprehensive cancer center in Catalonia, and to assess associated factors.

Methods: In a cross-sectional study (21st May-26th June 2020) all ICO workers (N=1,969) were invited to complete an online self-administered survey (demographics, lifestyles, professional information, clinic, and exposure and protection measures) and to provide a blood sample to test IgM and IgG against SARS-CoV-2. Adjusted prevalence ratios (aPR) for seropositivity and 95% confidence intervals (95%CI) were estimated.

Results: A total of 1,266 employees filled the survey (participation rate: 64%) and 1,238 underwent serological testing (97.8%). The median age was 44 years (IQR: 16), 76% were female, 52% were medical care staff (physicians, nurses or nursing assistants), and 79% worked on-site during the pandemic. Overall, crude SARS-CoV-2 seroprevalence was 8.90% (95%CI: 7.44-10.63), without differences by age and sex. No differences in seroprevalence were observed between on-site workers and teleworkers. Seropositivity was associated with cohabiting with someone with COVID-19 (aPR: 3.86, 95%CI: 2.49-5.98). Among on-site workers, seropositives were twice more likely to be medical care workers (aPR: 2.00, 95%CI: 1.33-3.14) and medical care staff working in a COVID-19 zone showed a higher seroprevalence than staff who did not work in this area (aPR: 2.45, 95% CI: 1.08-5.52). Seropositivity was lower on those who referred not to be exposed by interacting with colleagues (aPR: 3.26, 95% CI: 1.49-7.15).

Conclusions: SARS-CoV-2 seroprevalence among ICO workers was lower than in other Catalan hospitals. The main risk factor was cohabiting with infected people, contact with COVID-19 patients and colleagues stood out as risk factor of nosocomial infection. Strengthening preventive measures and health education among health-care workers is fundamental.

PÓSTERES

DIETARY PATTERNS AND NUTRITIONAL QUALITY OF THE SPANISH HOUSEHOLDS DURING THE COVID 19 PANDEMIC.

Emma Ruiz Moreno 1,2, Isabel Alonso Ledesma 2, Olivier Nuñez 1,2, Adela Castelló Pastor 3, Virginia Lope Carvajal 1,2, Nerea Fernández de Larrea Baz 1,2, Beatriz Pérez-Gómez 1,2, Marina Pollán Santamaría 1,2, Susana del Pozo de la Calle 4.

1 Consortium for Biomedical Research in Epidemiology and Public Health, CIBERESP, Madrid, Spain.
2 National Centre for Epidemiology, Institute of Health Carlos III, Madrid, Spain.
3 School of Medicine, University of Alcalá, Madrid, Spain.
4 Department of Nutrition and Food Science. Complutense University of Madrid, Madrid, Spain.

The approval of the state of alarm in Spain, during the health crisis situation caused by COVID-19 pandemic, led to a total lockdown of the population in 2020. Food consumption during those months was almost exclusively limited to food purchases made for the home.

The aims of this study are to describe the diet and its nutritional quality in the Spanish population during the lockdown and to assess the changes in diet compared to the same months in 2019.

The sample consisted of consumption and distribution data in households, obtained from the nationwide representative Food Consumption Survey (FCS) of the Ministry of Agriculture, Fisheries and Food, for the year 2020 of the Spanish population. The mean of FCS were converted into grams/person/day and have been transformed into energy and nutrients intakes, using the food composition tables.

In 2020 there was an expected increase in consumption of all food groups in households, especially during the months of March to June, compared with 2019. This increase begins before the state of alarm, in February, and continues after the end of the lockdown. In April there was an average increase of more than 40% for all food groups, with significant consumption peaks: 62% pulses in March, 75% alcoholic beverages and 60% appetizers in April.

The mean energy consumption was 2,800 kcal/person/day in April 2020, which represents an increase of 771 kcal/person/day (+ 38%) compared to the same month of 2019 in households (in March and May: + 520 kcal (+26%) and in June: +343 kcal (+ 18%)). In relation to nutrient density (nutrient/1,000 kcal), a reduction has been seen for calcium, iodine, zinc, selenium, B2, B12, C, D, A -especially retinol-. Conversely, there was an increase in fiber, sodium, folic acid, carotenes and vitamin E. Alcohol increased in more than 20% from April to August.

Dietary patterns of Spanish households have been changed greatly during the months of lockdown and after, but these changes do not seem to have led to an improvement in the quality of the Spanish diet.

EFFECT BIOMARKERS TO IMPROVE THE EVALUATION OF ENVIRONMENTAL EXPOSURES ON HUMAN HEALTH: BDNF AS A CASE-STUDY–.

Vicente Mustieles et al.

Grupo 19 CIBERESP.

Effect biomarkers (EfB) can be defined as measurable biological changes in an individual, that may indicate a health deterioration or even disease, in relation to environmental exposures. Depending on the level of biological organization, EfB can be classified as: molecular (e.g., epigenetic marks), biochemical (e.g., glucose or insulin), or physiological (e.g., blood pressure, fetal ultrasound measures). We can also find the so-called biomarkers of combined effect, analyzed using in vitro cellular models, that quantify the combined biological response of a complex mixture of environmental chemicals contained in human samples (e.g., xenoestrogenicity of serum, placenta, etc.). Despite their heterogeneity, EfB provide valuable information helping to: i) investigate potential modes of action between exposure-outcome associations; ii) identify subclinical effects without the need to wait years until the onset of a particular disease; iii) evaluate novel chemical families or substitutes of regulated chemicals in a timely manner. Therefore, there is an increasing interest in advancing theoretical and practical frameworks to promote the systematic implementation of EfB in human biomonitoring programs. This is one of the objectives of the Human Biomonitoring for Europe (HBM4EU) Initiative, in which the conceptual basis about EfB and their link with toxicological knowledge through tools like Adverse Outcome Pathways (AOPs) have been settled down. In addition, a general inventory of EfB, including both classic and novel (e.g., BDNF and Kisspeptin) has been created based on wide literature searches, analyzing their advantages and limitations.1,2 The Environment and Childhood (INMA)-Granada cohort is analyzing the utility of novel EfB of neurodevelopment, measured at different levels of biological organization (BDNF: blood DNA methylation, as well as serum and urinary protein levels), as potential mediators of the association between bisphenol A exposure measured at childhood (9-11 yrs.) and behavior at adolescence (15-17 yrs.). A similar approach is being implemented in aligned studies representing populations of the North, South, East and West of the European Union, as well as in other European cohorts.

References:

1. Baken et al., 2019. A strategy to validate a selection of human effect biomarkers using adverse outcome pathways: Proof of concept for phthalates and reproductive effects. Environ Res. doi: 10.1016/j.envres.2019.05.013.

2. Mustieles et al., 2020. Bisphenol A and its analogues: A comprehensive review to identify and prioritize effect biomarkers for human biomonitoring. Environ Int. 2020 doi: 10.1016/j.envint.2020.105811.

PÓSTERES

EPIDEMIOLOGICAL CHARACTERISTICS OF THE CONTENTION PHASE IN THE COVID-19 PANDEMICS IN CATALONIA.

A. Martínez, M. Jané, M. Valdivia, L. Basile, P. Ciruela, C. Izquierdo, N. Head; Working Group of the Epidemiological Surveillance Network of Catalonia; Working Group of the Microbiological Notification System of Catalonia.

Introduction: In Catalonia, the first case of SARS-CoV-2 infection was reported on February 25, 2020. A descriptive study about COVID-19 cases confirmed by PCR and notified to the Epidemiological Surveillance Network of Catalonia in the contention phase (25/2/2020 to 15/03/2020) was carried out.

Methods: The variables studied were: age, sex, date of sample collection, date of onset of symptoms, hospitalization, ICU, evolution, and chain distribution of the cases.

Results: A total of 2,014 cases were reported, 33.7% required hospital admission, 5% presenting severity criteria. The cases increased progressively, ranging daily from 1 case on February 25 to 479 cases reported on March 15, with a median of 29 cases. The fatality rate was 1.6%. The territorial distribution was not homogeneous; the highest percentage of cases was reported in the city of Barcelona (32.7%) and the lowest in Terres de l'Ebre region (0.7%).

The age distribution was: 0.22% of 0-4 years; 0.90% of 5-14 years; 9.88% of 15-29 years; 14.26% of 30-39 years; 14.37% of 40-49 years; 16.90% of 50-59 years; 14.04% of 60-69 years; 15.16% of 70-79 years; 10.89% of 80-89 years; 3.37% of 90 or more years. The gender distribution was: 51.1% of the cases were women and 48.9% men.

23 chains of cases were detected, 7 had their origin in trips to Italy, 3 were related to Germany (1 by trip and 2 by meetings in Catalonia with people from Germany), a chain started after a trip to Belgium (contact with people who came from Italy), one chain had its origin in the CA of Madrid and another in CA Valenciana. Ten of the chains had an unknown beginning, one of them led to a major nosocomial outbreak. The length of the chains ranged between 2 and 16 cases with a median of 3 cases. Those affected who were part of the chains ranged in age from 7 months to 88 years; 17 of those affected were health personnel.

Conclusions: The chains of transmission were identified during most of the contention phase. Subsequent community transmission led to the application of mitigation measures. The monitoring of confirmed cases and their contacts is decisive to direct the public health measures to be applied at each moment in the pandemic.

PÓSTERES

EVALUATING THE EFFECT OF MOBILITY IN THE DIFFUSION OF COVID-19 IN SPAIN.

A. Rojas-Benedicto 1,2, P. Fernández-Navarro 1,2, J. Segú-Tell 1, M. Guerrero-Vadillo 1, M. Peñuelas 1, R. Ramis 1,2, D. Gómez-Barroso 1,2, A. Larrauri 1,2.

1. Centro Nacional de Epidemiología, Instituto de Salud Carlos III, Madrid, Spain;
2. Grupo 7 y Grupo 32. Consorcio de Investigación Biomédica en Red de Epidemiología y Salud Pública (CIBERESP), Spain.

Audio póster.

Background: On January 30th 2020, the World Health Organization declared the outbreak of the now-called coronavirus disease 2019 (COVID-19). On March 11th, the alert was raised to worldwide pandemic; shortly after, Spain entered a State of Emergency and national lockdown.

The aim of this paper was to analyze the effect that internal and external mobility had on COVID-19 transmission in Spain during the first wave of the pandemic, as its spread and evolution was uneven across the country.

Materials/Methods: COVID-19 cases were obtained from the National Epidemiological Surveillance Network (RENAVE) in Spain. Mobility data was procured through the Ministry of Transport, Mobility and Urban Agenda.

The relationship between mobility and COVID-19 was represented by built indices based on the number of trips and secondary infections. One index called infectious risk of internal mobility represented the effect of movement within a province, whereas the other, called infectious risk of external mobility, between provinces. Then, a mixed-effects Poisson model, adjusted by potential cofounders, was constructed to estimate the mobility effect over COVID-19 transmission.

The analysis was performed using R program (v3.6).

Results: The global model showed a strong nation-wide effect by internal mobility, a total of 13 out of the 52 Spanish provinces presented significant risk. Our results also showed that the pandemic started in Madrid and Álava. Moreover, Madrid had a high association with COVID-19 cases in neighboring areas, but also provinces linked through economic, social or touristic factors. External mobility risk was also visible from other provinces, like Barcelona or Zaragoza.

Conclusions: Several factors contributed to the uneven diffusion of COVID-19 in Spain, being one of the key factors internal population mobility and flow from initial outbreak areas. These results could be useful for Public Health authorities in decision-making policies to bend the ongoing pandemic.

PÓSTERES

FACTORS ASSOCIATED WITH PNEUMONIA IN SEVERE INFLUENZA CASES IN EIGHT SEASONS, 2010-2011 TO 2017-2018.

Pere Godoy, Núria Soldevila, Ana Martínez, Mireia Jané, Nuria Torner, Lesly Acosta, Diana Toledo, Cristina Rius, Àngela Domínguez y Grupo de Trabajo de Vigilancia de la Gripe en Cataluña.

Grupos 1 y 12. CIBERESP

Audio póster.

Introduction/Objectives: Pneumonia is one of the forms of presentation of severe influenza cases. The objective was to estimate the risk factors of pneumonia in all severe influenza cases detected by the surveillance system in Catalonia during six influenza seasons.

Methods: An observational epidemiological study was conducted comparing cases ≥18 years of pneumonia with the rest of cases in 12 hospitals in Catalonia (62% of the population) in the 2010-2018 seasons. Hospitalized cases for more than 24 hours that met the clinical definition of influenza and had a positive PCR to influenza virus were included. Demographic, virological, comorbidities, vaccination and antiviral treatment were collected for each case. To study the variables associated with severe with pneumonia, the adjusted odds ratio (aOR) were calculated with their 95% confidence intervals (CI).

Results: 3541 patients hospitalized for severe influenza were included in the study and 69.1% (2448/3541) had pneumonia; of these, 42.6% (1042/2448) were women, the majority in the 18-64 year old group (40.6%; 993/2448) and 13.9% died in this influenza episode (341/2448). Most were caused by virus A (72.1%, 1765/2448). The most common comorbidity was heart disease (33.0%; 809/2448), diabetes (25.2%; 614/2448) and COPD (23.0%; 561/2448). 30.4% (738/3448) had received the influenza vaccine and 63.8% (1516/2448) had started antiviral treatment after 48 at the onset of symptoms. The variables associated with pneumonia cases were the female sex (ORa=0.82 IC95%:0.68-0.95), COPD (ORa=0.61; IC95%:0.51-0.73), chronic renal failure (ORa=0.80; IC95%:0.64-0.99) and initiate antiviral treatment after 48 hours of symptoms (ORa=1.45; IC95%:1.07-1.96). The seasonal influenza vaccine was a protective factor (ORa-0.83; IC95%:0.69-0.99).

Conclusions: Cases of severe influenza with pneumonia are less common in women, COPD patients and diabetics compared to other severe cases. Initiation of antiviral treatment within 48 hours of the onset of symptoms and the influenza vaccine may reduce the presentation of pneumonia in hospitalized influenza cases.

HCV CASCADE OF CARE OF PEOPLE ADMITTED TO DRUG TREATMENT (2015-2019) IN CATALONIA.

Reyes-Urueña J1,2,3, Egea-Cortés L1,3, Jorge Palacios L1,2, Muñoz R3, Majo X3, Buira E3, Forero V3, Manzanares-Laya S3, Casabona J1,2,3,4, Colom J3.

1 Centre for Epidemiological Studies on Sexually Transmitted Infections and HIV/AIDS of Catalonia (CEEISCAT), Catalonia Public Health Agency (ASPCAT), Badalona, Spain; 2 Group 27, Biomedical Research Networking Centre in Epidemiology and Public Health (CIBERESP), Instituto de Salud Carlos III, Madrid, Spain; 3 Programme for Prevention, Control and Treatment of HIV, STIs and Viral Hepatitis, ASPCAT, Barcelona, Spain; 4 Dept Paediatrics, Obstetrics and Gynaecology, and Preventive Medicine, Univ Autonoma de Barcelona, Bellaterra, Spain.

Background: People who use drugs (PWUD) have high rates of hepatitis C virus (HCV) infection. This study aims to characterize the HCV cascade of care of people admitted to drug treatment in Catalonia, Spain, by main drug of consumption.

Methods: Data from PWUD admitted to the 61 drug treatment centers (01/2015–12/2019) were derived and linked from three databases: The drug information System; The basic minimum data set of health centres; and HCV treatment registry. Results are based on main drug of consumption. The cascade was defined in four steps: diagnosis of HCV; initiation of treatment; cure and reinfection. Predictors of HCV treatment access were identified using a multivariable regression model.

Results: 44,306 PWUD were admitted to treatment: 9.6% (4,265) for heroine, 45.8% (20,282) alcohol; 14.3% (6,323) cannabis; 21.2% (9,384) cocaine and 4.3% (1,889) tobacco. Overall, 9.7% (4,278) had a diagnosis of HCV, 46.6% (1,993) had started HCV treatment, 83% (1,053) were cured and 1% (8) were reinfected. HCV cascade by main drug: heroine: 47% (2,004), 51.2% (1,027), 82% (410), no reinfections; alcohol: 5% (1,094), 40% (438), 316 (84%), and 1% (4); cannabis: 3% (173), 45% (78), 90% (57), no reinfections; cocaine: 5% (471), 44% (209), 82% (121), and 2% (3); and tobacco: 5% (93), 54% (50), 40 (98%), no reinfections, respectively. In multivariable analyses, human immunodeficiency virus seropositivity, imprisonment and tobacco users were independently and positively associated with HVC treatment access (P< .001), whereas being a woman was independently and negatively associated with HCV treatment access (P< .001).

Conclusion: Less than a half of those aware of their HCV infection had engaged in treatment, the lowest percentage was found among patients with alcohol dependence. Targeted interventions to increase access to treatment among PWUD are essential to reach the WHO target of elimination by 2030.

Disclosure of Interest Statement: No disclosures of interest.

PÓSTERES

HIGH ACCEPTABILITY AND EFFECTIVENESS OF AN ONLINE SELF-SAMPLING INTERVENTION FOR HIV IN GAY, BISEXUAL AND OTHER MEN WHO HAVE SEX WITH MEN AND TRANS WOMEN IN SPAIN (TESTATE VIH).

Cristina Agustí, Héctor Martínez, Victoria González, Sergio Moreno, Esteve Muntada, Pol Romano, Laia Egea, Rafael Muñoz, Juan Hoyos and Jordi Casabona.

Grupo 27 CIBERESP.

Background: The objective of the study was to evaluate the acceptability and effectiveness of an online self-sampling intervention for HIV testing and online consultation of the results addressed to gay, bisexual and other men who have sex with men (GBMSM) and trans women users of websites and online dating applications in Spain.

Methods: The website www.testate.org was designed to offer a self-sampling kit, consult the results and collect sociodemographic and behavioral information. The website was advertised in: Grindr, Scruff, Wapo, PlanetRomeo, Bakala, MachoBB and Trans4men. After signing the informed consent online, the participants requested the delivery of a saliva self-sampling kit by mail and a postage-paid envelope to send the sample to the reference laboratory. Participants received a reminder by SMS to repeat the test at 3/6/12 months. All reactive participants were called by phone. An anonymous acceptability survey was conducted on all participants.

Results: From November 2018 to December 2020, 6,872 self-sampling kits were sent to 4,007 participants (69.5 % return rate). 2,668 individuals participated with at least one sample, 1,235 participants (46.24%) had a single test, 705 (23.39%) had two, 357 (13.37%) had three, 197 had four (7.38%) and 177 (6.62%) participants took more than four tests. 99.64% of participants were men, the median age was 32 (IQR: 25-40), 16.88% had not previously been tested for HIV. 47.25% had not used a condom in their last anal intercourse. 37.15% had had an STI in the last 5 years. 89 reactive results were detected (3.3%, 95% CI, 2.65%-4.01%). The proportion of reactive result among participants with a single test was 5.75%. The estimated incidence was 56 reactive cases per 1,000 individuals-year. Of 89 participants with a reactive result, 18 were already known positive, three were false positive, 62 confirmed their result and 54 were linked to care and started treatment. 97.8% would recommend it to a friend. The most identified advantages were comfort and privacy.

Conclusions: The intervention counted with a high acceptability among the target population. The intervention has been shown to be effective given the high percentages of reactiveness, confirmation and linkage to care observed.

PÓSTERES

HIGH DRUG RESISTANCE LEVELS COULD COMPROMISE THE CONTROL OF HIV INFECTION IN PEDIATRIC AND ADOLESCENT POPULATION IN KINSHASA, THE DEMOCRATIC REPUBLIC OF CONGO.

Marina Rubio-Garrido1, Gabriel Reina2, Adolphe Ndarabu3, Ana Rodriguez-Galet1, Ana Valadés-Alcaraz1, David Barquín2, Silvia Carlos4 and África Holguín1.

1HIV-1 Molecular Epidemiology Laboratory, Microbiology and Parasitology Department, Hospital Ramón y Cajal-IRYCIS and CIBEREsp-RITIP-CoRISPe, Madrid (28034), Spain.
2MicrobiologyDepartment, Clínica Universidad de Navarra. Navarra Institute for Health Research. Institute of Tropical Health, Universidad de Navarra (Pamplona, Spain).
3Monkole Hospital (Kinshasa, Democratic Republic of Congo).
4 Department of Preventive Medicine and Public Health, Universidad de Navarra. Navarra Institute for Health Research. Institute of Tropical Health, Universidad de Navarra (Pamplona, Spain).

Background: The inadequacy of HIV viraemia and resistance monitoring in Africa leads to uncontrolled circulation of HIV strains with drug resistance mutations (DRM), compromising antiretroviral therapy (ART) effectiveness. This study describes the DRM prevalence and its therapeutic impact in HIV-infected pediatric patients from Kinshasa (Democratic Republic of Congo, DRC).

Methods: From 2016-2019, dried blood were collected from 71 HIV-infected children and adolescents under ART in two hospitals in Kinshasa for HIV-1 DRM pol analysis, predicted ARV-susceptibility by Stanford and phylogenetic characterization.

Results: HIV-1 sequences were recovered from 55 children/adolescents with 14 years of median-age. All had received nucleoside and non-nucleoside reverse transcriptase inhibitors (NRTI, NNRTI), 9.1% protease inhibitors (PI) and only one integrase inhibitor (INI). Despite the use of ART, 89.1% showed virological failure and 67.3% carried viruses with major-DRM to one (12.7%), two (47.3%), or three (5.5%) ARV-families. Most children/adolescents harbored DRM to NNRTI (73.5%) or NRTI (61.2 %). Major-DRM to PI was present in 8.3% and minor-DRM to INI in 15%. Dual-class-NRTI+NNRTI resistance appeared in 53.1% of patients. Viruses presented high/intermediate resistance to nevirapine (72.9% patients), efavirenz (70.9%), emtricitabine/lamivudine (47.9%), rilpivirine (41,7%), etravirine (39.6%), doravidine (33.3%), zidovudine (22.9%), among others. Most participants were susceptible to INI and PI. Great diversity of variants was found, with a high rate (40%) of unique recombinants.

Conclusion: The high DRM prevalence observed among HIV-infected children and adolescents in Kinshasa could compromise the 95-95-95-UNAIDS targets in the DRC. It also reinforces the need for routine resistance monitoring for optimal rescue therapy election in this vulnerable population to control the spread of resistant HIV in the country.

PÓSTERES

IDENTIFICATION OF URINARY METABOLITE QUANTITATIVE TRAIT LOCI IN CHILDREN AND THEIR INTERACTION WITH DIETARY FACTORS.

Geòrgia Escaramís, Mariona Bustamante, Eulalia Marti Puig.

Grupos 22 y 40 CIBERESP.

Human metabolism is influenced by genetic and environmental factors. Previous studies have identified over 23 genomic regions associated with more than 26 urine metabolites levels in adults, known as urinary metabolite quantitative trait loci or metabQTLs. The aim of the present study is the identification, for the first time, of urinary metabQTLs in children and their interaction with dietary patterns.

Association between genome-wide genotyping data and 44 urine metabolite levels measured by H NMR was tested in 996 children from the Human Early Life Exposome (HELIX) project. Twelve statistically significant urine metabQTLs were identified, involving 11 unique loci and 10 different metabolites. Comparison with previous findings in adults revealed that six metabQTLs were already known, one had been described in serum and three involved the same locus as other reported metabQTLs but different urinary metabolites. The remaining two metabQTLs represent novel urine metabolite-locus associations, reported for the first time in this study (SNP rs12575496 for taurine, and the missense SNP rs2274870 for 3-hydroxyisobutyrate). Moreover, it was found that urinary taurine levels were affected by the combined action of genetic variation and dietary patterns of meat intake, as well as by the interaction of this SNP with beverage intake dietary patterns.

Overall, we identified 12 urinary metabQTLs in children, including two novel associations. While a substantial part of the identified loci affected urinary metabolite levels both in children and in adults, the metabQTL for taurine seemed to be specific to children and interacted with dietary patterns.

PÓSTERES

IN UTERO AND CHILDHOOD EXPOSURE TO TOBACCO SMOKE AND MULTI-LAYER MOLECULAR SIGNATURES IN CHILDREN.

Geòrgia Escaramís, Mariona Bustamante, Eulalia Marti Puig.

Grupos 22 y 40 CIBERESP.

The adverse health effects of early life exposure to tobacco smoking have been widely reported. In spite of this, the underlying molecular mechanisms of in utero and postnatal exposure to tobacco smoke are only partially understood. Here, we aimed to identify multi-layer molecular signatures associated with exposure to tobacco smoke in these two exposure windows.

We investigated the associations of maternal smoking during pregnancy and childhood secondhand smoke (SHS) exposure with molecular features measured in 1203 European children (mean age 8.1 years) from the Human Early Life Exposome (HELIX) project. Molecular features, covering 4 layers, included blood DNA methylation and gene and miRNA transcription, plasma proteins, and sera and urinary metabolites.

Maternal smoking during pregnancy was associated with DNA methylation changes at 18 loci in child blood. DNA methylation at 5 of these loci was related to expression of the nearby genes. However, the expression of these genes themselves was only weakly associated with maternal smoking. Conversely, childhood SHS was not associated with blood DNA methylation or transcription patterns, but with reduced levels of several serum metabolites and with increased plasma PAI1 (plasminogen activator inhibitor-1), a protein that inhibits fibrinolysis. Some of the in utero and childhood smoking-related molecular marks showed dose-response trends, with stronger effects with higher dose or longer duration of the exposure.

In this first study covering multi-layer molecular features, pregnancy and childhood exposure to tobacco smoke were associated with distinct molecular phenotypes in children. The persistent and dose-dependent changes in the methylome make CpGs good candidates to develop biomarkers of past exposure. Moreover, compared to methylation, the weak association of maternal smoking in pregnancy with gene expression suggests different reversal rates and a methylation-based memory to past exposures. Finally, certain metabolites and protein markers evidenced potential early biological effects of postnatal SHS, such as fibrinolysis.

INTERPLAY BETWEEN *LACTOBACILLUS* AND CLOSTRIDIALES RESTRICTS GUT COLONIZATION BY MULTIDRUG-RESISTANT ENTEROBACTERIACEAE.

Djukovic A1, Garzón MJ1, Canlet C2, Cabral V3, Lalaoui R4, García-Garcerá M5, Rechenberger J6, Tremblay-Franco M2, Peñaranda I1, Puchades-Carrasco L7, Pineda-Lucena A7,8, González-Barberá E9, Salavert M9, López-Hontangas JL9, Sanz MA9,10, Sanz J9,10, Kuster B6, Rolain J4, Debrauwer L2, Xavier KB3, Xavier JB11,12, Ubeda C1,13.

1Centro Superior de Investigación en Salud Pública - FISABIO, Valencia, Spain.
2Toxalim – Research Center in Food Toxicology, Toulouse University, INRA UMR 1331, ENVT, INP-Purpan, Paul Sabatier University, Toulouse, France.
3Instituto Gulbenkian de Ciência, Oeiras, Portugal.
4Aix Marseille Univ, IRD, APHM, MEPHI, IHU-Méditerranée Infection, Marseille, France.
5 Department of Fundamental Microbiology, University of Lausanne, Switzerland.
6 Chair of Proteomics and Bioanalytics, Technical University of Munich, Fresing, Germany.
7 Drug Discovery Unit, Instituto de Investigación Sanitaria La Fe, Valencia, Spain.
8Molecular Therapeutics Program, Centro de Investigación Médica Aplicada, University of Navarra, Spain.
9Hospital Universitari i Politècnic La Fe, Valencia, Spain.
10CIBERONC, Instituto Carlos III, Madrid, Spain.
11 Lucille Castori Center for Microbes, Inflammation and Cancer, Memorial Sloan Kettering Cancer Center, New York, USA.
12 Computational Biology Program, Sloan-Kettering Institute, New York, USA.
13 Centers of Biomedical Research Network (CIBER) in Epidemiology and Public Health, Madrid, Spain.

Infections by multidrug-resistant Enterobacteriaceae (MRE) are life-threatening to patients. The commensal microbiome of a healthy individual protects its host against MRE colonization, but antibiotic treatment causes collateral damage to commensals, opening the way to colonization and subsequent infection. Despite the significance of this problem, the commensals that confer protection and the mechanisms they use to restrict MRE colonization remain largely unknown. Here, we integrate multiple omics techniques (metagenomics, metabolomics and metaproteomics) to study the microbiome in hospitalized patients, a mouse model that mimics the conditions in which these patients are colonized with MRE, and gnotobiotic mice, to determine how the commensal microbes impair MRE gut colonization. We find that *Lactobacillus* sp. is key, though not sufficient, to restrict MRE gut colonization: *Lactobacillus* sp. increases the levels of several Clostridiales genera, which increase intestinal levels of butyrate and ultimately impair MRE growth. This mechanism—a synergy between *Lactobacillus* sp. and commensal butyrate producers—is conserved in patients and mice. To best of our knowledge this is the first mechanism of colonization resistance common to mice and patients involving cooperation between microbiota members. These results stress the importance of exploiting microbiome interactions—not just its members in isolation—to develop effective probiotics that prevent infections in hospitalized patients.

PÓSTERES

INVOLVEMENT OF WORKERS IN CLOSED AND SEMICLOSED INSTITUTIONS IN OUTBREAKS OF ACUTE GASTROENTERITIS DUE TO NOROVIRUS.

Ignasi Parrón; Irene Barrabeig, Miquel Alseda; Thais Cornejo-Sánchez; Susana Guix; Mireia Jané; Conchita Izquierdo; Cristina Rius; Àngela Domínguez.

Grupos 1 y 12 CIBERESP.

Norovirus outbreaks frequently occur in closed or semiclosed institutions. Recent studies in Catalonia and various countries indicate that, during outbreaks in these institutions, norovirus is detected in between 23% and 60% of workers, and the prevalence of infection in asymptomatic workers involved in outbreaks ranges from 17% to 40%.

In this work, we carried out a prospective study to investigate the involvement of workers in closed and semiclosed institutions in outbreaks of acute gastroenteritis due to Norovirus during the period 2017-2019. The attack rates (ARs) and the rate ratios (RRs) were calculated according to the mode of transmission and occupational category. The RRs and 95% confidence intervals (CIs) between workers were calculated. The mean cycle of quantification (Cq) values were compared according to the genogroup and the presence of symptoms.

During the study period, 99 AGE outbreaks due to NoV were detected in these institutions that involved 451 workers. In 74 outbreaks, the mode of transmission was person-to-person and in remaining 25, it was due to a common vehicle. ARs were higher in person-to-person transmission than in common vehicle outbreaks (RR 1.35; 95% CI 1.05-1.74), and 38.8% of workers were symptomatic. Analysis by type of institution showed the RR of attack rates was only significant for schools (RR 1.93; 95% CI 1.07-3.49). The ARs in workers were high, particularly in workers with closer contact with users. The mean Cq was lower in patients than in asymptomatic infected workers, although the difference was only significant for genogroup I (GI). The frequency of asymptomatic infected persons suggests that personal hygiene measures should be followed by all workers in the centers affected.

MEDITERRANEAN DIET AND RISK OF DEMENTIA AND ALZHEIMER'S DISEASE IN THE EUROPEAN PROSPECTIVE INVESTIGATION INTO CANCER AND NUTRITION-SPAIN DEMENTIA COHORT STUDY.

María Encarnación Andreu-Reinón1,2, María Dolores Chirlaque2,3,4,5, Diana Gavrila2,4,6, Pilar Amiano4,7,8, Javier Mar8,9,10,11, Mikel Tainta12,13, Eva Ardanaz4,14, Rosa Larumbe14,15,16, Sandra M. Colorado-Yohar2,3,4,17, Fernando Navarro-Mateu2,4,18, Carmen Navarro2,5, José María Huerta2,3,4.

1 Section of Neurology, Department of Internal Medicine. Rafael Méndez Hospital. Murcia Health Service. Lorca, Murcia, Spain.
2 Murcia Biomedical Research Institute (IMIB-Arrixaca), Murcia, Spain.
3 Department of Epidemiology. Murcia Regional Health Council, Murcia, Spain.
4 CIBER Epidemiología y Salud Pública (CIBERESP), Madrid, Spain.
5 Department of Health and Social Sciences, University of Murcia, Murcia, Spain.
6 Murcia Health Service, Murcia, Spain.
7 Public Health Division of Gipuzkoa, Basque Government, Donostia-San Sebastián, Spain.
8 Biodonostia Health Research Institute, San Sebastián, Spain.
9 Clinical Management Unit, OSI Alto Deba, Arrasate-Mondragón, Spain.
10 AP-OSIs Gipuzkoa Research Unit, OSI Alto Deba, Arrasate-Mondragón, Spain.
11 Health Services Research Network on Chronic Patients (REDISSEC), Bilbao, Spain.
12 CITA Alzheimer Foundation, Donostia-San Sebastián, Spain.
13 Neurology Service, OSI Goierri-Alto Urola, Zumárraga, Spain.
14 Public Health Institute of Navarra, IdiSNA, Pamplona Spain.
15 Neuroepigenetics Laboratory, Navarrabiomed, Public University of Navarre (UPNA).
16 Department of Neurology, Complejo Hospitalario de Navarra, Pamplona, Spain.
17 Research Group on Demography and Health, National Faculty of Public Health, University of Antioquia, Medellín, Colombia.
18 Unidad de Docencia, Investigación y Formación en Salud Mental (UDIF-SM). Servicio Murciano de Salud, Murcia, Spain.

Background: The Mediterranean diet (MD) has shown to prevent the occurrence of several chronic diseases. Its potential protective role on cognition is attracting growing interest in recent years.

Objective: To evaluate the relationship between adherence to a MD pattern and the risk of dementia and dementia sub-types in the EPIC-Spain Dementia Cohort.

Design: Prospective cohort study of 16,160 healthy participants recruited from three Spanish regions (Murcia, Navarra, Gipuzkoa) between 1992-1996 and followed-up for a mean (±sd) of 21.6 (±3.39) years. A total of 459 incident cases of dementia were ascertained through expert revision of medical records. Data on habitual diet was collected through a validated diet history method and adherence to the relative Mediterranean Diet (rMED) score was assessed. Hazard ratios (HR) of dementia by rMED levels were estimated using multivariate proportional hazards Cox models. Time-dependent effects were evaluated using flexible parametric Royston-Parmar

(RP) multivariate models. Participants with major chronic pathologies, and energy mis-reporters were excluded from the analyses.

Results: High versus low adherence to the rMED score was associated with a 20% reduced risk of dementia overall (P for trend = 0.021). Dementia risk decreased by 9% (95%CI: 8.5-9.8%) for each 2-point increment of the rMED score. A protective effect was found in women for non-AD (HRcontinuous, per 2-points = 0.74, 95%CI: 0.62-0.89) and in men for AD (HRcontinuous, per 2-points = 0.88, 95%CI: 0.76-1.01). The association was stronger in participants with lower education (P = 0.039).

Conclusion: MD had a protective effect on dementia incidence in the Mediterranean EPIC-Spain Dementia cohort in multivariate models accounting for major cardiovascular risk factors, but the strength of the association differed by dementia sub-type, sex, and education. Significant associations were revealed only after excluding mis-reporters of energy intake. Further studies are needed to elucidate the mechanisms underlying this association.

Funding: The EPIC study received financial support from the International Agency for Research on Cancer (AEP/93/06), the European Commission (SO-97-200302-05F02, SP23-CT-2005-006438), the Health Research Fund (FIS) of the Spanish Ministry of Health, the CIBER de Epidemiología y Salud Pública (CIBERESP), and the participating Regional Governments of Basque Country, Murcia (no. 6236), and Navarra. The present project received partial funding from the Fundación Séneca (19487/PI/14), The EPIC-Murcia study received partial funding from the Fundación Séneca (19487/PI/14), the Murcia Biomedical Research Institute (IMIB)-FFIS and the Spanish Biomedical Research Network Center (CIBER) (BOE-A-2020-6018).

MICROBIOLOGICAL VARIABLES ASSOCIATED WITH SEVERITY IN PEDIATRIC INFECTION BY RINOVIRUS.

Cristian Launes1, Jon González-de-Audicana2, Desiree Henares1, Daniel Penela1, Maria Cabrerizo2, Carmen Muñoz-Almagro1.

1Grupo de investigación en enfermedades infecciosas pediátricas. Fundación de investigación Sant Joan de Déu (Barcelona). CIBER de epidemiología y salud pública, Grupo 57.
2Centro Nacional de Microbiología Instituto Carlos III. Madrid. CIBER de epidemiología y salud pública, Grupo 13.

Introduction: Clinical spectrum of rhinovirus (RV) infection ranges from asymptomatic or mild symptomatic infection to being, often, the only etiological agent in patients requiring advanced respiratory support in intensive care units.

Objective: To evaluate the clinical impact of viral and bacterial coinfection in children with lower respiratory tract infection (LRTI) and human rhinovirus / enterovirus (RV / EV) detection.

Patients and methods: From 1/2018 to 12/2019, epidemiological, microbiological and clinical data were prospectively collected from patients under 5 years of age with IRTI and RV / EV infection who required admission to the PICU of a pediatric tertiary hospital (University Hospital Sant Joan de Déu, Barcelona). Virological diagnosis was made in nasopharyngeal aspirate (ANF) sample using a PCR for multiple respiratory pathogens within the first 48 hours of PICU admission and bacterial cultures of those aspirates. Characterization of RV / EV was carried out at the National Center for Microbiology (ISCIII).

Patients with comorbidities (except recurrent wheezing) were excluded, as well as the bacterial results of those who received antibiotics for> 48 hours at the time of taking the ANF.

The variable considered in the estimation of severity was having required a prolonged stay in the PICU (defined as a PICU stay greater than the 50th percentile of the overall sample).

Results: 71 patients were included, with a median age of 2.1 months (IQR: 1.2-9.3 months). RV / VE was detected as the sole viral infection in 31 (44%) patients. The main viral co-detection was RSV (42%), followed by adenovirus (14%), parainfluenza virus (12%) and metapneumovirus (9%).

The patients were divided into 3 groups according to the virological diagnosis: patients with RV / EV as the sole viral infection, 31 (44%), with RV / EV + RSV without any other viral infection, 22 (31%) and with RV / EV + multiple viral co-detections, 18 (25%). The characterization of the RV / EV indicated that 25 (45%) were RV of species A (RV-A), 6 (11%) RV-B, 22 (40%) RV-C and 2 (4%) EV -B. All RV-B cases were detected in the RV / EV + RSV group (p = 0.028).

Bacterial cultures were performed in 49 and 42 were positive (86%). Haemophilus influenzae (45%) and Moraxella spp (32%) were the most frequently detected bacteria.

In a univariate analysis, the detection of RV / EV + RSV and the presence of gram-negative bacteria (GN) growth in the ANF culture was associated with greater severity. In the multivariate analysis, GN bacterial growth was the only variable that remained associated with a long PICU stay.

Conclusions: In RV infection, co-infection with other respiratory viruses and bacteria such as H influenza and Moraxella spp, can determine the severity of the clinical disease. The analysis of the nasopharyngeal bacterial and viral microbiota may help to identify the most susceptible patients and to select specific treatments for them and preventive strategies.

MONTECARLO SIMULATION APPLIED TO BREAST CANCER PROGRAMS AND RANDOMIZED CONTROLLED TRIAL.

Luis I Zamora1,2, Cristina Forastero2,3, Damián Guirado2,3,4, Antonio M Lallena2,5.

(1) Hospital Universitario Virgen de las Nieves, Granada, Spain.
(2) Instituto de Investigación Biosanitaria (ibs.GRANADA), Complejo Hospitalario Universitario de Granada/Universidad de Granada, Spain.
(3) Hospital Universitario Clínico San Cecilio, Granada, Spain.
(4) CIBER de Epidemiología y Salud Pública (CIBERESP). Granada, Spain.
(5) Departamento de Física Atómica, Molecular y Nuclear, Universidad de Granada, Spain.

Massive mammography screening programs are currently widespread throughout the developed world and are considered a powerful public health tool to reduce mortality. However, many questions remain open in relation to these programs.

The study of the effectiveness of these programs has traditinally been done through randomized controlled trials. These assays have many limitations. We have carried out a realistic simulation of them using Monte Carlo techniques that involve probabilistic distributions of the different parameters that determine the results of the screening programs: mammography sensitivity, probability of clinical detection, density distributions of the breast and its evolution, evolution of tumors and their histological types, probability of their appearance, etc.

In this way, it has been possible to reproduce the results associated with the detection of the programs implemented in real populations and to carry out an estimate of over-diagnosis. The estimate of over-diagnosis lays between 10% and 20% of all tumors detected in screening, being somewhat lower in the age range between 40 and 70 years. The increase in over-diagnosis is also demonstrated when the interval times are shorter. The above values are reduced to the range of 6% to 14% for realistic configurations and participation percentages of 80%.

Regarding the reduction in breast cancer mortality attributable to screening, our simulations provide results of between 23% and 33%, depending on the age range and program configuration. For realistic participation percentages, these values are reduced to 16% and 23%. Our simulations of the main trials shows that Malmö Östergötland, Stockholm, Goteborg and UK Age trial show a high methodological quality and the results are applicable to other populations. The low mortality reduction of the Canadian trials could be explained by the low quality of the mammography.

This model could be extended to the study of any other type of screening programs, as well as being applied to populations at higher risk, in which the prevalence of the disease is higher and the programs would undoubtedly prove more efficient.

PÓSTERES

PLASMA AMINO ACIDS AND RISK OF IMPAIRED LOWER-EXTREMITY FUNCTION, AND ROLE OF DIETARY INTAKE: A NESTED CASE-CONTROL STUDY IN OLDER ADULTS.

Francisco Félix Caballero1, Ellen A. Struijk1, Antonio Buño2, Verónica Vega-Cabello1, Fernando Rodríguez-Artalejo1,3, Esther Lopez-Garcia1,3.

1Department of Preventive Medicine and Public Health. School of Medicine. Universidad Autónoma de Madrid-IdiPaz and CIBERESP (CIBER of Epidemiology and Public Health), Madrid, Spain.
2Department of Laboratory Medicine, La Paz University Hospital-IdiPaz, Madrid, Spain.
3 IMDEA-Food Institute. CEI UAM+CSIC, Madrid, Spain.

Audio poster.

Background: Amino acids are key elements in the regulation of the aging process which entails a progressive loss of muscle mass. Thus, this study assessed the prospective association between amino acid species and impaired lower-extremity function (ILEF) in older adults; given that the health effects of plasma amino acids can be influenced by dietary intake, the study also explored the role of diet on this association.

Methods: This is a case-control design comprising 43 incident cases of ILEF and 86 age- and sex-matched controls. The study was nested in the Seniors-ENRICA cohort of older adults. Plasma concentrations of 20 amino acid species were measured after solvent extraction at baseline and incident cases of ILEF were measured after two years by means of the Short Physical Performance Battery test. For statistical analyses, plasma amino acids were grouped into global scores of branched-chain, aromatic and essential amino acids. Conditional logistic regression models were used to assess longitudinal relationships.

Results: After adjusting for potential confounders, higher levels of tryptophan were associated with a decreased 2-year risk of ILEF [OR per 1-SD increase = 0.64, 95% CI = (0.42, 0.97)], while glutamine and total essential amino acids were linked to higher ILEF risk [OR = 1.57, 95% CI = (1.01, 2.45); OR = 1.89, 95% CI = (1.18, 3.03), respectively). Those with a lower adherence to a Mediterranean diet, a higher BMI, a higher consumption of red meat, and a lower consumption of nuts and legumes, had a higher risk of ILEF associated with higher levels of essential amino acids.

Conclusions: Some amino acid species could serve as risk markers for physical function decline in older adults, and healthy diet might attenuate the excess risk of ILEF linked to essential amino acids.

PÓSTERES

QUALITATIVE STUDY OF NEEDS ASSESSMENT AND CONCEPTUALIZATION OF A NEW HEALTHCARE INDICATOR LIBRARY, BIBLIOINDICA.

Serra- Sutton V (1,2), Albert-Ballestar S (1,2), Smith K (1,3), Montané C (4), Arias de la Torre J (2,5,6), Sala M (3,7), Pardo Y (2,8), Ferrer M (2,8), Espallargues M (1,3).

(1) Agència d'Avaluació i Qualitat Sanitàries de Catalunya (AQuAS).
(2) CIBER Epidemiología y Salud Pública (CIBERESP).
(3) Red de investigación en servicios de salud en enfermedades crónicas (REDISSEC).
(4) Consultora independiente. Profesora de la Escola Universitària de Disseny i Enginyeria de Barcelona (Universitat Pompeu Fabra).
(5) King's College London. Institute of Psychiatry, Psychology and Neuroscience (IoPPN).
(6) Departamento de Ciencias Biomédicas, Área de Medicina Preventiva y Salud Pública. Universidad de León.
(7) Grup de Recerca en Epidemiologia i Avaluació. Institut Hospital del Mar d'Investigacions Mèdiques (IMIM).
(8) Grup de Recerca en Serveis Sanitaris. IMIM (Institut de Recerca Hospital del Mar).

Funding: this project was partially funded by CIBERESP.

Background and aims: The overall objective was to gather key informants' opinions on needs not covered in the quality of care assessment area and their views on the potential of a new virtual library of indicators and methodological support tools (BiblioINDICA).

Methods: A qualitative study using semi-structured interviews with key informants was carried out based on a phenomenological perspective. Information from the interviews was triangulated with a previous literature review and other materials. A theoretical sample of informants representing the views of clinical and quality of healthcare management, strategic health planning or purchasing process and related scientific societies was defined. The fieldwork took place in January to May 2019 and each interview was audiotaped and transcribed. Content and discourse analysis was applied.

Findings: Most informants were women (72.7%) and all except 2 (n=22) from the theoretical sample participated. Three levels of decision-making micro (center), meso (provider/scientific society) and macro (region) levels were equitably represented (31.8%, 31.8% and 36.4%, respectively). When respondents were asked for the role for a new virtual of indicators, they called for a platform that unifies, with a global view as well as glimpse of the care process (not fragmented). For most informants considered BiblioINDICA would facilitate: a) offering visibility of existing methodological support tools to indicators, independent of the type of resource/area (acute hospital, mental health, primary care, etc.); b) taking into consideration the validity and reliability of the indicators, reinforced by evidence, along with experience in their implementation; c) identifying gaps for new indicators in areas where they currently do not exist.

Conclusions: A new library like BiblioINDICA could help users share and collaborate on good practice initiatives by making them more visible and useful, while aiding in assessing their robustness and reliability. Potential users could benefit from this type of library as a knowledge transfer project.

PÓSTERES

RAPID, SCALING UP OF HIGH THROUGHPUT SARS-COV-2 EMERGENCY DIAGNOSTIC TESTING IN PUBLIC HEALTH LABORATORIES.

Laura Cano (1), Susana Ortolá (2), Martín Llácer (2), Sandra García-Esteban (1), Blanca Navarro Cubells (3), Mª Piedad Olmos (2), Marisa Camaró (2), Pedro Martí Requena (2*), F. Xavier López-Labrador (1,4*).

(1) Laboratorio de Virología, Área de Genómica y salud, FISABIO-Salud Pública (Fundación para el Fomento de la Investigación Sanitaria y Biomédica de la Comunidad Valenciana), Generalitat Valenciana.
(2) Laboratorio de Salud Pública de Valencia, Dirección General de Salud Pública, Generalitat Valenciana.
(3) Blanca Navarro Cubells, Dirección General de Salud Pública, Generalitat Valenciana.
(4) CIBER-ESP, Instituto de Salud Carlos III.
(*) On behalf the covid-19 team FISABIO-LSPV-DGSP. Presents the poster

Introduction: On April 14th, 2020 the Laboratory of Virology of the Area of Genomics and Health of FISABIO-Public Health and the Laboratory of Public Health of Valencia (General Direction of Public Health, DGSP) were jointly accredited by the Instituto de Salud Carlos III for molecular diagnostics testing of SARS-CoV-2, to improve the covid-19 diagnostic capacity.

Aims: 1) Validation of alternative automated viral RNA extraction methods and 2) alternative SARS-COV-2 amplification tests. 3) Transfer to the Laboratory of Public Health, as alternative diagnostic scheme for emergency use and preparation for the second wave.

Methodology: In a first step, alternative commercial methods for viral RNA extraction and "in-house" RTPCR tests for SARS-CoV-2 according to WHO protocols (Charité and CDC) were validated and adapted to automation in open systems, to avoid shortages of reagents. In a second step, we scaled-up the most reliable methods to high throughput, including commercial kits and reagents when available, by means of automation of viral RNA extraction and RTPCR in 96-sample format using open robotic platforms (Hamilton Robotics and Eppendorf Epmotion).

Results and discussion: We rapidly validated our own methods for the diagnostic of SARS-CoV-2, with similar performance to CE-IVD marked commercial kits. The immediate impact was to provide a diagnostics alternative for emergency use to face reagent shortages. In a second phase, once high throughput protocols were automated, we transferred the diagnostic procedures to the Laboratory of Public Health and adapted the automated platforms to commercial reagents, once again available. In May-June we had already developed a platform with a capacity for processing 800 samples/day. To date (Dec. 2020) we have tested more than 16.000 samples of distinct origins: nursing homes, educational centres, outbreaks, etc.; also giving support to tertiary-care hospitals; primary care, and centres dedicated to vulnerable populations.

PÓSTERES

RELATIONSHIP BETWEEN SICKNESS ABSENCE DUE TO CANCER AND RISK OF EARLY EXIT FROM LABOUR MARKET IN CATALONIA (SPAIN) (2012- 2018).

Amaya Ayala-García, Laura Serra, Fernando G. Benavides.

Grupo 47 CIBERESP.

Background: Incidence and survival rates of cancer have increased in the last decade. The number of people diagnosed with cancer in the workplace are expected to increase steadily. Continuing to work after cancer has a positive effect in the quality of life of cancer survivors.

Objective: To compare the probability of exiting the labour market prematurely due to early retirement or permanent disability of salaried workers who suffered a previous sickness absence (SA) due to cancer.

Methods: Cohort study of a working sample of 1,548 affiliates to Social Security, residents in Catalonia between 2012 and 2018. Cases with a SA due to a cancer between 2012 and 2015 (N=516) where individually matched by sex and age with a worker with a SA due to other diagnosis, and a SA-free worker. Individuals were followed up after they ended the SA episode until end of 2018 to see if they were recognised a permanent disability or early retirement. Cox survival analysis models were applied, separately for each outcome and sex, to compare probabilities of the outcomes between each comparison group and cases.

Results: Women who suffered a SA due to cancer had a higher probability of exiting the labour market due to permanent disability than those who were free of SA (aHR: 3.27; 95% CI: 1.49–7.17). In men, the same trend was observed for permanent disability (aHR: 1.94; 95% CI: 0.81–4.66). For both men and women, no differences were found in the probability of early retirement between workers who suffered a SA due to cancer and comparison groups.

Conclusions: There is a higher probability of exiting the labour market due to permanent disability in men and women who have had a SA due to cancer comparing to those SA-free. People who survive a cancer should have labour support to adapt their workplace to their needs.

SARS-CoV-2 ANTIBODIES AND UTILITY OF POINT OF CARE TESTING IN HEALTH CARE WORKERS FROM A SPANISH UNIVERSITY HOSPITAL IN MADRID.

Rodríguez-Domínguez M*1, 2, Romero-Hernández B1 Marcos-Mencía D1, Sánchez-López J1, del Campo-Albendrea L3, Abreu M1, Martínez-García L1,2 Muedra M4, Fernández-Escribano M4, Ferré-Masferrer M5, Cantón R1,6, Galán JC1,2.

1 Servicio de Microbiología, Hospital Universitario Ramón y Cajal and Instituto Ramón y Cajal de Investigación Sanitaria (IRYCIS). Madrid. Spain.
2 CIBER en Epidemiología y Salud Pública (CIBERESP). Spain.
3 Unidad de Bioestadística. Hospital Universitario Ramón y Cajal. IRYCIS. Madrid. Spain.
4 Servicio de Prevención de Riesgos Laborales. Hospital Universitario Ramón Cajal. Madrid. Spain.
5. Subdirección Médica de Servicios Centrales. Hospital Universitario Ramón y Cajal. Madrid. Spain.
6 Red Española de Investigación en Patología Infecciosa (REIPI). Spain.

Objective: Seroprevalence studies are useful to evaluate the burden of SARS-CoV-2 infection, identifying risk groups and sources of infection. We evaluated the impact of the first epidemic wave in the overall staff working in a large Hospital, alongside with evaluation of a point of care test for antibody detection.

Methods: Serological testing was offered to all staff in the Hospital. Antibody detection was carried out by both an ELISA test and a lateral flow immunoassay.

Results: 5875 professionals (87.0%) agreed to participate (80.3% women, 19.7% men). Overall prevalence was 23.1 %. Men were significantly most affected than women (25.5% vs 23.3%). No association was found with age. Although prevalence was higher in sanitary workers from COVID areas, IgG detection was significantly high in non-sanitary professionals (16.8 %) specially Heads of Departments and Nursing Supervisors (30.0%). On the other side, prevalence in highly exposed workers from intensive care units was one of the lowest (13.7%). Antibodies were not detected in 6.1 % of previously confirmed infections. Current asymptomatic infection could be demonstrated in 1.1 %. Sensitivity and specificity of lateral flow immunoassay was adequate for IgG detection (93.5% and 98.0% respectively) but suboptimal for IgM (S= 33%).

Conclusion: We found one of the highest prevalence described in Health Care Workers. Great affectation of non-sanitary professionals suggest that source of infection is not only related to patient care. Lateral flow immunoassay could be useful for serosurveys in limited resource settings and populations with difficult access to sanitary systems.

SARS-CoV-2 PNEUMONIA IN PRIMARY CARE: OBSERVATIONAL STUDY IN A PRACTICE IN MADRID CITY.

Vanesa Aguilar Ruiz (1), Ileana Gefaell Iarrondo (1), Marina Guisado-Clavero (1), Marta Pérez Álvarez (1), Ana Herrero Gil (1), Marta Castelo Jurado (1), Ana Herrera Marinas (1), Sara Ares-Blanco (1), Miguel Menéndez (2).

(1) Servicio Madrileño de Salud.
(2) Instituto de investigación i+12 (CIBERESP), Hospital 12 de Octubre.

Background: Possible cases of SARS-CoV-2 infection were diagnosed in primary care in Madrid, some of these cases had pneumonia. Most of the SARS-CoV-2 pneumonia published data came from hospitalized patients. This study set out to describe clinical characteristics of patients with SARS-CoV-2 pneumonia diagnosed in primary care across age groups and type of pneumonia.

Methods: Observational retrospective study of patients who were followed-up by SARS-CoV-2 possible infection in a primary care practice in Madrid. All the cases were collected by in-person or remote consultation during the 10th March to the 7th of April. Exposure: Diagnosis of SARS-CoV-2 pneumonia by chest X-ray ordered by the GP. Main outcomes and measures: Symptoms of SARS-CoV-2 pneumonia, physical examination and diagnostic tests (blood test, RT-PCR, chest X-ray).

Results: The overall SARS-CoV-2 pneumonias collected were 172 (female [50.6%], mean age 60.5 years (standard deviation [SD] 17.0). Comorbidities were body mass index ≥25 kg/m2 (52.3%), hypertension [48.3%]), dyslipidaemia (39.5%) and diabetes [19.2%]). The sample was stratified by age groups (<50 years, 50-75 years and ≥75 years). Clinical manifestations at onset were fever (83.7%), cough (140 [81.4%]), dyspnoea (103 [59.9%]) and gastrointestinal disturbances (41.9%). Day 7.8 (SD:4.1) from clinical onset was the mean day of pneumonia diagnosis. Bilateral pneumonia was more prevalent than unilateral (73.3%). Patients with unilateral pneumonia were prone to higher pulse oximetry (96% vs 94%, p <0.001). We found differences between unilateral and bilateral cases in C-reactive protein (29.6 vs 81.5mg/L, p <0.001), and lymphocytes (1400.0 vs 1000.0E3/ml, p<0.001). Complications: 100% of patients ≥75 years were admitted; pulmonary embolism was only present at bilateral pneumonia (5.6%) and death occurred in 1 patient with unilateral pneumonia (2.2%) vs 10 patients (7.9%) with bilateral pneumonia (p 0.170).

Conclusion: Clinical manifestations of SARS-CoV-2 pneumonia were fever, cough and dyspnoea; this was especially clear in the elderly.

SOCIOECONOMIC INEQUALITIES IN COLORECTAL, LUNG, AND BREAST CANCER INCIDENCE IN SPAIN: A MULTILEVEL POPULATION-BASED STUDY.

Daniel Redondo-Sánchez1,2,3, Rafael Marcos-Gragera2,4, Marià Carulla5,6, Arantza Lopez de Munain7, Consol Sabater Gregori8, Rosario Jimenez Chillarón9, Marcela Guevara2,10,11, Olivier Nuñez2,12, Pablo Fernández-Navarro2,12, María-José Sánchez1,2,3,13*, Miguel Angel Luque-Fernandez1,2,3*.

** These authors contributed equally*

1 Instituto de Investigación Biosanitaria de Granada, Non-communicable Disease and Cancer Epidemiology Group, ibs.GRANADA, Granada, Spain.
2 Consortium for Biomedical Research in Epidemiology and Public Health (CIBER Epidemiología y Salud Pública, CIBERESP), 28029 Madrid, Spain.
3 Andalusian School of Public Health, Granada, Spain.
4 Epidemiology Unit and Girona Cancer Registry, Oncology Coordination Plan, Department of Health, Autonomous Government of Catalonia, Catalan Institute of Oncology, Av. França, s/n, 17004 Girona, Spain.
5 Tarragona Cancer Registry, Cancer Epidemiology and Prevention Service, Hospital Universitari Sant Joan de Reus, Reus, Spain.
6 Institut d'Investigacions Sanitàries Pere Virgili (Institut d'Investigació Sanitària Pere Virgili), Reus, Spain.
7 Basque Country Cancer Registry. Health Department. Basque Government. Vitoria-Gasteiz. Spain.
8 Castellón Cancer Registry. Comunitat Valenciana Cancer Information System. Department of Health, Autonomous Government of Comunitat Valenciana. València. Spain.
9 Registro de Cáncer de Cuenca.
10 Navarra Public Health Institute, Pamplona, Spain.
11 IdiSNA, Navarra Institute for Health Research, Pamplona, Spain.
12 Cancer and Environmental Epidemiology Unit, National Center for Epidemiology, National Institute of Health Carlos III Madrid, Spain.
13 Department of Preventive Medicine and Public Health. University of Granada. Granada, Spain.

Introduction: Many European countries routinely investigate the association of socioeconomic inequalities on cancer incidence using deprivation indices. Socioeconomic inequalities in cancer incidence are not well documented in Spain. We aim to study the association between the incidence of colorectal, lung and breast cancers and the socioeconomic status (SES) in seven Spanish provinces.

Methods: We conducted a multilevel study using data from population-based cancer registries. We included all the incident cancer cases diagnosed for the period 2010-2013 in seven Spanish provinces. SES index was developed by the Spanish Society of Epidemiology using data from the Spanish 2011 census conducted by the Spanish National Statistics Institute. We assessed the

association between SES and cancer incidence adjusted for age, sex, and calendar year using a generalized linear mixed-effects model including the census tract as a random intercept. We also estimated the posterior relative risk of cancer by small census tracts using a non-linear generalized mixed-effect model adjusted for SES, age, sex and calendar year.

Results: Male adults with the lowest socioeconomic status (SES) in contrast to those with the highest SES showed an increased risk of lung cancer (i.e., risk ratio -RR-: 1.30, 95% CI: 1.05–1.59). Conversely, female adults with the lowest SES compared to those with the highest SES showed a reduction of breast cancer incidence of 24% (i.e., RR: 0.76, 95% CI: 0.68–0.85). We did not find evidence of an association between SES and colorectal cancer incidence neither in men nor in women, and lung cancer among women.

Conclusion: The associations found between socioeconomic deprivation and cancer incidence in Spain are consistent with other European countries. Understanding the reasons for these associations between cancer incidence and SES could help develop appropriate public health programs aimed at reducing inequalities, promoting health and reducing cancer incidence in Spain.

Funding: Instituto de Salud Carlos III (ISCIII): PI18/01593 & CP17/00206-EU/FEDER. Asociación Española Contra el Cáncer (AECC): PROYE20023SÁNC and the Cancer Epidemiological Surveillance Subprogram (VICA) from the Instituto de Salud Carlos III.

PÓSTERES

TEMPORARY DYNAMICS AND STABILITY ANALYSIS OF INTESTINAL MICROBIOTA IN A MEDITERRANEAN COHORT.

Susana Ruiz-Ruiz1,2, *,Benjamí Pérez-Rocher3, Javier Pons-Tamarit1, Alejandro Artacho1 and Andrés Moya1.

1Foundation for the Promotion of Sanitary and Biomedical Research of the Valencian Community (FISABIO), València.
2CIBER in Epidemiology and Public Health (CIBEResp), Madrid.
3Institute of Integrative Systems Biology, Universitat de València and CSIC, València.
**Presents the poster.*

During 2016 and 2017, we established a Mediterranean cohort with three age groups: 10 children between 2 and 5 years (3.9 ± 1.5), 10 adults between 25 and 45 years (35.4 ± 6.6) and 10 elderly between 65 and 85 years (74.5 ± 4.3). With monthly collections for eight months of feces from these individuals (240 samples in total), we determined in them the composition of the microbiota by means of the 16S gene analysis (Illumina platform). The objective of the study was to differentially determine the stability of the microbiota in the three groups by applying the model developed in the group (Marti et al. 2017, mSytems 2:e00144-16) which is based on Taylor's power law. The fundamental parameters of the model are V, which measures the variation or fluctuation of taxa over time and β, which is the power law index. The fit to the power law was robust for all individuals (R2> 0.749). As expected in population ecology, β was always less than 1 for all individuals, indicating that the most abundant genus in the microbial community is less susceptible to disturbance than any of the less abundant genera. In contrast, V did vary between age groups. High values of the V parameter are associated with greater instability (lower health) than lower values. We found that children (mean 0.351) had statistically significant differences compared to adults (mean 0.277) and the elderly (mean 0.267) with a clear indication that the intestinal microbiota, for different reasons, evolves from infancy to the adult/old age period until reaching stability. The condition of poorer health in the infant microbiota must be interpreted as a process of gradual establishment and incorporation of new taxa that will finally make up the adult microbiota.

PÓSTERES

THE INITIAL MEDICATION ADHERENCE INTERVENTION TRIAL (IMA-CRCT): STUDY PROTOCOL OF AN ERC STARTING GRANT PROJECT.

Alba Sánchez-Viñas, Carmen Corral-Partearroyo, Ignacio Aznar-Lou, Maria Rubio-Valera.

Grupo 58 CIBERESP.

Background: One out of 10 patients do not initiate their medications for a chronic disease in Spain. This behaviour is associated with poorer clinical outcomes, more days of sick leave and higher costs for the national healthcare system.

Objective: The Initial Medication Adherence – cluster-Randomized controlled trial (IMA-cRCT) aims to evaluate the effectiveness, cost-effefctiveness and feasibility of the IMA intervention, which is expected to improve initiation, adherence and clinical symptoms.

Methods: The IMA-cRCT is an effectiveness-implementation hybrid design which consists of a pragmatic cluster-RCT, including a process evaluation for the optimisation of the intervention, and economic modelling to provide long-term evidence of the cost-effectiveness of the intervention.

Intervention: Patients prescribed with a new treatment for cardiovascular disease or diabetes will recive the IMA intervention from their general practitioners, supported by community nurses and pharmacists. The intervention will promote health literacy and shared decision making betwen health care professionals and patients in comparison to usual care.

Setting: This intervention will be perfomed in the Catalonian primary healthcare system. The estimated number of centres and patients to include in the trial is 34 and 4000, respetively.

Analysis: Real world data will be used to evaluate short-term effects and cost-effectiveness of the intervention. Markov models will be constructed to extrapolate the results of the cRCT and estimate long-term cost-effectiveness of the intervention.

Expected results: The study will provide evidence on the IMA intervention, as well as on a novel methodology to develop and evaluate future complex interventions. The results will have implications for practice, policy and research. Furthermore, those results will be disseminated to stakeholders, including decision makers, health care professionals and patient groups, to facilitate its transferability to clinical practice.

PÓSTERES

THE QUALITY OF CAUSES OF DEATH ON MORTALITY STATISTIC IN SPAIN BY LAND.

Lluís Cirera* a,b,c, María-Dolores Chirlaque a,b,c, and Diego Salmerón b,c.

a) Dept of Epidemiology, Murcia Regional Health Council - IMIB-Arrixaca, Murcia; b) CIBER de Epidemiología y Salud Pública, Madrid; c) Dept of Health and Social Sciences, University of Murcia, Murcia.

Introduction: The Spain's return to democracy in 1978, and its decentralization into Autonomous Communities in the generation of cause of death statistics, has implemented its utility. The internationalization by the European Union and the statistical scope of EuroStat, has been essential for the automation process and provisional outcomes.

Objective: To evaluate inaccurate and ill-defined death certification according to Autonomous Cities and Communities (AcC) over the years 1980 to 2018 in Spain.

Material: A descriptive epidemiological design of an annual unit was implemented with the causes of death code-counts assigned into inaccurate and ill-defined certified grouping.

Each AcC was compared to Spain in the 2016-2018 period by means of the Comparative Mortality Ratio (CMR, direct method of age-standardization). The number of deaths was modelled as a Poisson variable by AcC, sex and age group. For each AcC, the CMR was defined as its land-rate divided by the Spanish's one. The estimation of the CMR was performed under the Bayesian perspective using its posterior median as a point estimator, and a 95% credibility interval. The Jeffrey's prior was used on the parameters of the Poisson variables.

Results: In the whole Spain and both-sexes, a decrease was observed in the age-standardized rates of ill-defined certification group (48.6 vs 11.3 deaths per 100,000) and of inaccurate certifications (116.4 to 31.8). This decreasing trend was also found in AcC.

In the last period (2016-2018), the ranking rates differences between AcC for both-sexes, has achieved 17 percentage points in ill-defined and inaccurate medical certification. Moreover, there was a significant excess of ill-defined certification in died women and men over the Spanish average, in Andalusia, Valencia, Ceuta+Melilla, Extremadura, and Madrid lands. This datum was land-recurrent for inaccurate certification with the Madrid exception.

Discussion: The observed differences are suggestive of a medical mistrainning in causes of death certification.

PÓSTERES

THE SOUTHERN EUROPEAN ATLANTIC DIET AND ALL-CAUSE MORTALITY IN OLDER ADULTS.

Adrián Carballo Casla.

Grupo 25 CIBERESP.

Audio póster.

Background: The Southern European Atlantic Diet (SEAD) is the traditional diet of Northern Portugal and North-Western Spain. Higher adherence to the SEAD has been associated with lower levels of some cardiovascular risk factors and reduced risk for myocardial infarction, but whether this translates into lower all-cause mortality is uncertain. We hence examined the association between adherence to the SEAD and all-cause mortality in older adults.

Methods: Data were taken from the Seniors-ENRICA-1 cohort, which included 3165 individuals representative of the non-institutionalized population aged ≥60 years in Spain. Food consumption was assessed with a validated diet history and adherence to the SEAD was measured with an index comprising 9 food components: fresh fish, cod, red meat and pork products, dairy products, legumes and vegetables, vegetable soup, potatoes, whole-grain bread, and wine. Vital status was ascertained with the National Death Index of Spain. Statistical analyses were performed with Cox regression models and adjusted for the main confounders.

Results: During a median follow-up of 10.9 years, 646 deaths occurred. Higher adherence to the SEAD was associated with lower all-cause mortality (fully adjusted hazard ratio [95% confidence interval] per 1-SD increment in the SEAD score 0.86 [0.79,0.94]; p-trend < 0.001). Most food components of the SEAD showed some tendency to lower all-cause mortality, especially moderate wine consumption (hazard ratio [95% confidence interval] 0.71 [0.59,0.86]). Results were robust in several sensitivity analyses. The protective association between SEAD and all-cause death was of similar magnitude to that found for the Mediterranean Diet Adherence Screener (hazard ratio [95% confidence interval] per 1-SD increment 0.89 [0.80,0.98]) and the Alternate Healthy Eating Index (0.83 [0.76,0.92]).

Conclusions: Adherence to the SEAD is associated with a lower risk of all-cause death among older adults in Spain.

TOWARDS SUSTAINABLE PLASTIC MANAGEMENT OF MUNICIPAL SOLID WASTE (MSW): LESSONS LEARNED IN THE COVID19 CRISIS AND PROPOSALS FOR ACTION.

Olea N, Peula F, Sánchez-Rios M, Iribarne-Durán L, Calero de Hoces M, Martín-Lara, MA, Fernández MF.

Grupo CIBERESP-19/ibs.GRANADA, Dptos Radiología e Ingeniería Química/Univ. Granada, Serv. Prov. Trato. Residuos, Diputación de Granada.

Emergency measures established under the COVID-19 pandemic have highlighted the contribution and benefits of plastics used in protection, prophylaxis, medical materials and devices and food packaging. However, the sudden increase in plastics demand and poor waste management points out the unsustainability of the plastics economy and the failures in environmental pollution containment measures. The EU has defined that plastic pollution is, together with climate change and biodiversity loss, one of the most pressing challenges. The production, disposal and management of plastic waste is responsible for significant greenhouse gas emissions, partly due to its outdoor burning, inadequate residues treatment at recycling plants, and intensive incineration for energy production. The COVID-19 pandemic has caused significant changes in plastics production and consumption and waste generation. The WHO estimates that 89 million medical masks, 76 million gloves and 1.6 million sets of glasses have been required each month of the pandemic. In addition, there has been a significant increase in the consumption of plastic-packed foods which has found in single-use plastics a way out apparently suited to fight biological contamination. While disposable plastic products have played an important role in preventing the spread of COVID-19 in the short term, increased demand for these items can challenge any EU effort to curb plastic pollution and any progress towards a more sustainable system, based on the circular economy. The CIBERESP-19 group, together with those responsible for the provincial waste management plant in Granada, have studied the situation after the first nine months of COVID-19 crisis, analyzing how measures taken to protect against the pandemic have changed the qualitative and quantitative composition of MRW. Attention was paid to the fall in 13% of the MRW generated and the more than 50 Tm of polypropylene masks that are counted during the pandemic, and how the residues plant, that meets the needs of one million citizens, has been adapted to the new plastics management needs. A plan to improve waste management has been developed which is summarized in the following points: 1) Management of personal protective equipment (PPE) of plastic materials: i) Implementation of sustainable/rational use of personal protective equipment in sanitary and non-sanitary facilities, in particular in hotspot areas of the pandemic; ii) Promotion of the use of dressing gowns and other reusable PPE to prevent the generation of plastic waste; iii) Promotion of energy recovery with recovery of disposable PPE material. 2) Management of plastic materials derived from the packaging of food and consumer goods: i) Implementation of sustainable security measures to ensure the safety of consumer goods packaging and ensure the provision of services; ii) Promotion of sustainable and safe

consumption and production patterns for plastics; iii) Promotion of attitudes of citizen collaboration at all stages of reducing plastic consumption, reuse and recycling. 3) Remediation measures to mitigate potential adverse effects of plastic pollution due to pandemic scenarios: i) Establishing stricter protocols for the treatment of plastic waste with selective separation at source; ii) Increasing professional protection measures against potentially hazardous waste from a biological point of view; iii) Extending the selective recovery of plastics to groups of materials that by their composition or size are not routinely recovered.

References:

Patrício Silva et al. Rethinking and optimising plastic waste management under COVID-19 pandemic: Policy solutions based on redesign and reduction of single-use plastics and personal protective equipment. Sci Total Environ. 2020;742:140565. doi: 10.1016/j.scitotenv.2020.140565.

Post-corona-planet. EEA. https://www.eea.europa.eu/post-corona-planet

World Trade Organization Communication on trade in plastics https://unctad.org/system/files/information-document/wto_unctad_CTE2020_en.pdf

ULTRA-PROCESSED FOOD INTAKE AND ALL-CAUSE MORTALITY IN SPAIN.

Romero Ferreiro, Carmen 1; Martín–Arriscado Arroba, Cristina 1,3; Cancelas Navia, Pilar 1,3; Lora Pablos, David 1,2,3,4; Gómez de la Cámara, Agustín1,2,3.

1. Unidad de Investigación y Soporte Científico (i+12), Hospital Universitario 12 de Octubre. Madrid, Spain.
2. CIBER de epidemiología y salud pública (CIBEResp).
3. Plataforma de Unidades de Investigación Clínica y Ensayos Clínicos (SCReN).
4. Facultad de Estudios Estadísticos, Universidad Complutense de Madrid (UCM), Madrid, Spain.

Objective: To determine the association between the intake of ultra-processed foods and mortality from all causes in a representative sample of the Spanish population.

Design: It is a prospective cohort of the DRECE study, representative of the Spanish population. The follow-up covers the entire population from its inception in 1991 to the date of mortality or December 31, 2017. The vital status and cause of mortality were provided by the National Statistical Institute (INE). Dietary information was collected using a validated food frequency questionnaire. By nova food classification, all foods were classified into four groups according to the extent of food processing: Group 1 describes unprocessed/minimally processed foods. Group 2 comprises processed culinary ingredients. Group 3 includes processed products. Group 4 collect all ultra-processed foods. Using the Spanish Food Composition Database (BEDCA), we estimate the energy and nutritional profile of each food group. The association between ultra-processed food consumption and mortality was analyzed using tight Cox models for some confounders. Isoalica substitution models were built to compare the health effects of different NOVA groups.

Participants: A population cohort of 4679 individuals (average age 30.5 years and 48.9% female) were selected from the DRECE.

Results: The average consumption of ultraprocessed foods was 370.8 grams/day (24.4% of total energy intake). After a median follow-up of 27 years (122,134 person-years),450 deaths occurred. In all models, participants who consumed the most processed foods had a higher risk of mortality. For each 10% increase in energy intake of processed foods, consumption had an increased risk of 15% higher all-cause mortality (Hazard ratio 1.15; 95% CI, 1.03-1.27; p 0.012). The Hazard ratio for mortality from consumption of processed foods was 1.04 (95% CI, 1.01-1.10; p 0.018) in grams per day. The substitution of ultra-processed foods for unprocessed or minimally processed foods was associated with a significant decrease in mortality.

Conclusions: An increase in the consumption of ultraprocessed foods was associated with a higher risk of mortality from all causes in a representative sample of the Spanish population. In addition, the theoretical substitution of processed foods for unprocessed or minimally processed foods would reduce the risk of mortality.

URINARY CONCENTRATIONS OF NON-PERSISTENT PESTICIDE METABOLITES AND ASSOCIATION WITH HORMONES LEVELS IN ADOLESCENTS FROM THE INMA-GRANADA COHORT.

Carmen Freirea,b, Beatriz Suáreza,b, Fernando Vela-Soriaa, Francesca Castiellloa,c,d, Alicia Olivasa,d, Iris Reina-Péreza,d, Nicolás Oleaa,b,d, Mariana F. Fernándeza,b,d.

aInstituto de Investigación Biosanitaria (ibs.GRANADA);
bCIBER de Epidemiología y Salud Pública (CIBERESP);
cServicio de Pediatría, Hospital Universitario San Cecilio;
dUniversidad de Granada.

Background/objectives: Experimental data show that numerous contemporary non-persistent pesticides, including insecticides, fungicides and herbicides, interfere with estrogen, androgen, and/or thyroid signaling pathways. However, epidemiological studies on the potential endocrine effects of pesticide exposure in children and adolescents remain scarce. This study aimed to describe the concentrations of urinary metabolites of organophosphate (OP), pyrethroid and carbamate insecticides, and dithiocarbamate fungicides, and examine their association with serum levels of reproductive, thyroid, and adrenal hormones in adolescents from the "Infancia y Medio Ambiente" (INMA) Project.

Methods: A cross-sectional study was conducted among a sample of 134 boys belonging to the INMA-Granada cohort who participated in the clinical follow-up visit at the age of 15-17 years. Serum samples and first-morning urine voids were collected from participants. Urine samples were analyzed for 3,5,6-trichloro-2-pyridinol (TCPy), a metabolite of the OP insecticide chlorpyrifos; 2-isopropyl-4-methyl-6-hydroxypyrimidine (IMPy), a metabolite of the OP diazinon; malathion diacid (MDA), a metabolite of the OP malathion; diethyl thiophosphate (DETP), a metabolite of several OPs; 3-phenoxibenzoic acid (3-PBA) and (2,2-dichlorovinyl)-2,2-dimethylcyclopropane-1-carboxylic (DCCA), metabolites of numerous pyrethroid insecticides; 1-naphthol (1N), a metabolite of the carbamate insecticide carbaryl; and ethylenethiourea (ETU), the main metabolite of dithiocarbamate fungicides. Serum samples were analyzed for reproductive (testosterone, estradiol [E2], DHEAS, SHBG, LH, FSH, anti-Müllerian hormone [AMH], IGF-1 and prolactin), adrenal (ACTH and cortisol), and thyroid (free T4 [FT4], total T3 [TT3], and TSH) hormones. Associations were examined using lineal regression models adjusted for urinary creatinine, age, body mass index, place of residence, and season and time of day when blood was collected.

Results: MDA was the metabolite showing the highest detection frequency (84%), followed by IMPy (76%), ETU (75%), DCCA (65%), DETP (55%), 1N (38%), TCPy (33%), and 3-PBA (19%). MDA concentrations were associated with increased FSH and decreased AMH levels; TCPy with increased DHEAS and decreased E2, FSH, and AMH; IMPy with increased E2, DHEAS, FSH, AMH, and prolactin and decreased SHBG and LH; DETP with increased testosterone and TT3 and decreased FSH, AMH, and prolactin; 3-PBA and DCCA were associated with increased TT3 and

E2, respectively. Finally, 1N was associated with increased DHEAS levels, while no association was observed for ETU.

Conclusions: These results suggest that non-persistent pesticide exposure may lead to altered reproductive and thyroid hormone levels in male adolescents. Some of the observed associations could be explained by the potential interference of pesticides on aromatase and deiodinase activity, and oxidative stress at the pituitary level. Nonetheless, further studies with larger sample size are warranted to confirm our findings.

WHAT ARE THEY REALLY FOR? ANALYSIS OF THE PREDICTIVE CAPACITY OF SOME SIMPLE EPIDEMIOLOGICAL MODELS.

Antonio M. Lallena1,2, Marta Anguiano1,2, Damián Guirado2,3, Manuel Vilches4.

1Instituto de Investigación Biosanitaria (ibs.GRANADA), Complejo Hospitalario Universitario de Granada/Universidad de Granada, Spain.
2Departamento de Física Atómica, Molecular y Nuclear, Universidad de Granada, Spain.
3CIBER de Epidemiología y Salud Pública (CIBERESP). Granada, Spain.
4IMOMA, Instituto de Medicina Oncológica y Molecular de Asturias. Oviedo, Spain.

The pandemic generated by the appearance of COVID-19 has developed a widespread interest in epidemiology and epidemiological models. The lock-down imposed in order to stop the runaway spread of the disease has led, in some cases without much meaning, to a curious effect that has made many people, with a little knowledge of basic statistics, to feel able to describe the evolution of the characteristic parameters of the pandemic, by using some of these models, usually the simplest ones, even when their epidemiological knowledge is scarce, if not nil. The immediate consequence of this situation has been an unprecedented proliferation of manuscripts sent to different journals in the field and, although some of these journals have drawn attention to themselves, asking these new epidemiological "experts" to limit such activity, the truth is that quite a few articles have been published with such contents.

One of the fundamental aspects that a useful epidemiological model must ensure is its predictive capacity: using the information available to date they must be able to predict the evolution of the parameters of interest in the future (near or far).

This paper analyses several simple epidemiological models, which appear in recent publications describing the evolution of the COVID-19 pandemic, paying particular attention to what predictions they give rise to. The data series available for the different countries are sufficiently long to be able to establish the validity of these models and respond quantitatively to the initial question, objectively elucidating what the real capabilities of these models are.

WHO IS LOST IN THE LAST STEPS OF THE CASCADE OF HIV SERVICES IN CATALONIA? PISCIS COHORT RESULTS?

Jorge Palacio-Vieira 1,2,3, Juliana Reyes-Urueña 1,2,3 , Sergio Moreno 1,3, Andreu Bruguera 1,3, Arkaitz Imaz 4, Daniel Podzamczer 4, Josep M. Llibre 3,5, Pere Domingo 6, Melchor Riera 7, Gemma Navarro 8, Vicenç Falcó 9, Fancisco Homar 10, Josep M. Miró 11, Jordi Casabona 1,2,3,12 and PISCIS investigators.

1. Centre Estudis Epidemiològics sobre les Infeccions de Transmissió Sexual i Sida de Catalunya (CEEISCAT), Agència de Salut Pública de Catalunya, Spain.
2. CIBER Epidemiologia y Salud Pública (CIBERESP), Spain.
3. Institut d'Investigació Germans Trias i Pujol (IGTP), Spain.
4. Hospital Universitari de Bellvitge, Hospitalet, Spain.
5. Hospital Universitari Germans Trias i Pujol, Badalona, Spain.
6. Hospital de la Santa Creu i Sant Pau, Barcelona, Spain.
7. Hospital Universitari Son Espases, Palma, Spain.
8. Consorci Corporació Sanitària Parc Taulí, Sabadell, Spain
9. Vall d'Hebron Research Institute (VHIR), Hospital de Vall d'Hebron, Barcelona, Spain.
10. Hospital de Son Llàtzer, Palma, Spain
11. Hospital Clínic-Institut d'Investigacions Biomèdiques August Pi i Sunyer, University of Barcelona, Spain.
12. Departament de Pediatria, Obstetrícia i Ginecologia i de Medicina Preventiva, Universitat Autònoma de Barcelona, Spain.

Importance: People living with HIV (PLWH) might sometimes become lost to follow-up (LTFU) and disengage from treatment, however, given the characteristics of its healthcare system, little is known about LTFU in Spain. International studies showed that LTFU vary between 8% and 21.3% (McGettrick P 2017; Comelli A 2019), and one of the few studies carried out in Spain showed 15% of LTFU (Tiera R 2019).

Objective: The objective of this study is to analyse the incidence of LTFU and their associated factors in the PISCIS Cohort of Catalonia, Spain in 2018.

Methods: The PISCIS Cohort is multicenter, longitudinal and prospective study that follows people infected with HIV, aged 16 years or more and registered in 18 hospitals in Catalonia and the Balearic Islands. PLWH were considered LTFU if they entered in the cohort after 01/01/2010 and had no contact with their hospital during the 12 months prior to Dec 31, 2018. Logistic regression models were used to determine the risk (OR = Odds Ratio) of LTFU, adjusted by clinical and socio-demographic variables.

Results: Of the 29,675 people followed up in the cohort, 43.7% (n=12,970) were recruited after 01/01/2010, 77.9% (n=10,098) were considered in care and 22,1% (n=2,872) were LTFU. The risk of LTFU decreased among older patients (35 to 54 years old OR=0.87 95% CI 0.69-0.86, 55 years or older OR=0.73 96% CI 0.58-0.93) and those who have been on antiretroviral treatment for

more years (OR=0.81 95% CI 0.79-0.83). In contrast, the risk of LTFU increased among PLWH with a AIDS diagnosis (OR = 1.41 95% CI 1.18-1.69), those born outside of Spain (Europe OR=1.57 95% CI 1, 13-1.89 or Africa or America OR 1.16 95% CI 1.02-1.32), users of injecting drug (OR=1.48 95% CI 1.11-1.86) and those who coinfected with the hepatitis C virus (OR = 1.54 95% CI 1.24-1.92).

Conclusions/Relevance: This study analysed the socio-demographic and clinical characteristics of LTFU in one of the largest HIV cohorts in Spain. The results of this study will be used to design an intervention strategy aimed at reincorporating LTFU in HIV treatment and could be used to improve the clinical practice of PLWH.


ciberesp

ciberesp
Centro de Investigación Biomédica en Red
Epidemiología y Salud Pública

MINISTERIO DE CIENCIA E INNOVACIÓN

Instituto de Salud Carlos III

UNIÓN EUROPEA

Fondo Europeo de Desarrollo Regional (FEDER)
"Una manera de hacer Europa"

Fondo Social Europeo (FSE)
"El FSE invierte en tu futuro"