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Hepatitis C burden in Greece, Italy, Portugal and Spain from 2000 to 2019

Claudia Palladino[1], **Ifeanyi Ezeonwumelu**[2], Verónica Briz[3], and Nuno Taveira[1,4]

[1]Research Institute for Medicines (iMed.ULisboa), Faculty of Pharmacy, Universidade de Lisboa, Lisbon, Portugal, [2]Gladstone Institute of Virology and Immunology, San Francisco, CA, USA, [3]Laboratory of Viral Hepatitis, National Center for Microbiology, Institute of Health Carlos III, Majadahonda, Madrid, Spain, [4]Centro de Investigação Interdisciplinar Egas Moniz (CiiEM), Instituto Superior de Ciências da Saúde Egas Moniz, Caparica, Portugal

BACKGROUND

Eradicating viral hepatitis by 2030 is a global health priority[1]. The economic crisis starting in 2008-2009 and the subsequent austerity seriously affected southern countries of Western Europe (sWE) Greece, Italy, Portugal, and Spain and may have compromised ongoing efforts to end these diseases. We performed a comprehensive evaluation of HCV burden, morbidity and mortality estimates in sWE, WE and globally between 2000-2019 and assessed the impact of the economic crisis on these parameters.

METHODS

We analysed data of the Global Burden of Diseases (GBD)[2] to describe the patterns of six measures of HCV burden [prevalence, incidence, mortality, years lived with disability (YLDs), years of life lost (YLLs), disability adjusted life years (DALYs)] in Greece, Italy, Portugal, Spain[3]. We assessed age-standardized rates (per 100,000 population) between 2000-2019, disaggregated by sex and age, and compared the annualized age-standardized rate of change (ARC%) in 2000-2010 (pre-austerity) and 2010-2019 (post-austerity).

RESULTS

Prevalence, incidence and YLDs rates of acute HCV showed a general stable trend in WE, globally and in the four studied countries of sWE except Italy with a marked decline. Mortality, YLLs and DALYs associated with acute HCV decreased in sWE but peaked in Greece post-austerity (**Fig 1A**). Mortality caused by chronic liver diseases including cirrhosis decreased globally, in WE and in all sWE albeit at a lower rate in the post-austerity period (**Fig 1B**).

HCV liver cancer prevalence increased in WE and sWE mainly in the pre-austerity period except for Italy. However, despite having the highest prevalence rate in both sexes, Italy showed major decreases in all six-disease metrics over the last two decades (**Fig 1C**). Notably, HCV liver cancer mortality declined significantly only in Italy (ARC: 2.1%) and globally (ARC: 2.6%) especially in the pre-austerity period, in contrast to the significant increase in Portugal (**Table 1**). Overall, males and people >70 years old were at greater risk of developing chronic liver diseases due to HCV infection.

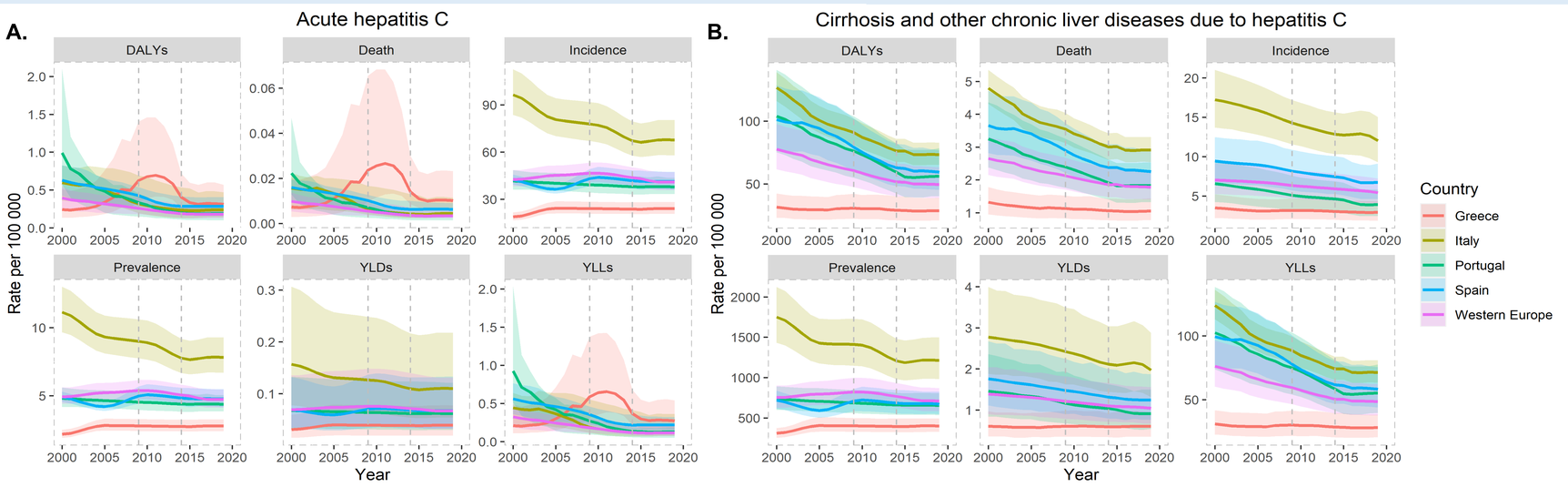

Table 1: Age-standardized mortality rates of Liver cancer due to HCV in Greece, Italy, Portugal, Spain, Western Europe and Globally from 2000 to 2019 (Global Burden of Disease Study 2019).

Period	Greece	Italy	Portugal	Spain	Western Europe	Global
2000	0.51 [0.36 – 0.66]	3.44 [3.15 – 3.74]	1.25 [0.94 – 1.59]	2.75 [2.19 – 3.31]	1.78 [1.49 – 2.06]	2.45 [2.18 – 2.71]
2010	0.55 [0.39 – 0.74]	2.77 [2.50 – 3.00]	1.51 [1.13 – 1.89]	2.78 [2.23 – 3.33]	1.84 [1.54 – 2.14]	1.89 [1.64 – 2.11]
2019	0.59 [0.41 – 0.80]	2.66 [2.34 – 2.93]	1.63 [1.21 – 2.09]	2.70 [2.10 – 3.30]	1.81 [1.49 – 2.15]	1.78 [1.53 – 2.04]
ARC 2000-10 (%)	0.86	-2.16	1.87	0.10	0.34	-2.64
ARC 2010-19 (%)	0.66	-0.45	0.91	-0.31	-0.16	-0.62

Values represent rate of deaths (age-standardized, per 100,000) and 95% uncertainty interval in square brackets; ARC: annualized rate of change.

Figure 1: Age-standardized rates of acute (**A**), cirrhosis and other chronic liver diseases (**B**) and Liver cancer (**C**) due to HCV in Greece, Italy, Portugal, Spain and Western Europe from 2000 to 2019 (Global Burden of Disease Study 2019). Shadows around the solid lines represent the estimates 95% uncertainty interval [UI].

CONCLUSIONS

- The economic crisis of 2008 negatively impacted HCV related liver cancer mortality rates in Greece, Italy, Portugal, and Spain
- Despite recovery in recent years, elimination of HCV infection by 2030 will be a major challenge in these countries, exacerbated by the COVID-19 pandemic and current grim economic outlook

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Correspondence
ifeanyi.ezeonwumelu@gladstone.ucsf.edu; cpalladino@edu.ulisboa.pt