

Authors: Marta de la Cruz¹, Leire Gil², Nerea Larrañaga², Amaia Soraluze², Arantza Lopez de Munain³, Domingo Eizaguirre³, Visitacion de Castro¹

¹Basque Cancer Registry. Basque Health Department. Public Health: Bizkaia¹, Gipuzkoa² and Araba³

INTRODUCTION AND OBJETIVES

Primary liver cancers in adults are of two main histological types: hepatocellular carcinoma (HCC) from hepatocytes, and cholangiocarcinoma (CGC) from intrahepatic bile duct cells. HCC is the most common type in the Basque Country (BC), accounting for 80% of liver cancers. Harmful alcohol consumption, viral hepatitis B and C and metabolic syndromes related to obesity are the leading causes of cirrhosis and primary liver cancer in Europe. The aim of this study was to analyse a likely association between socioeconomic status (SES) and HCC risk.

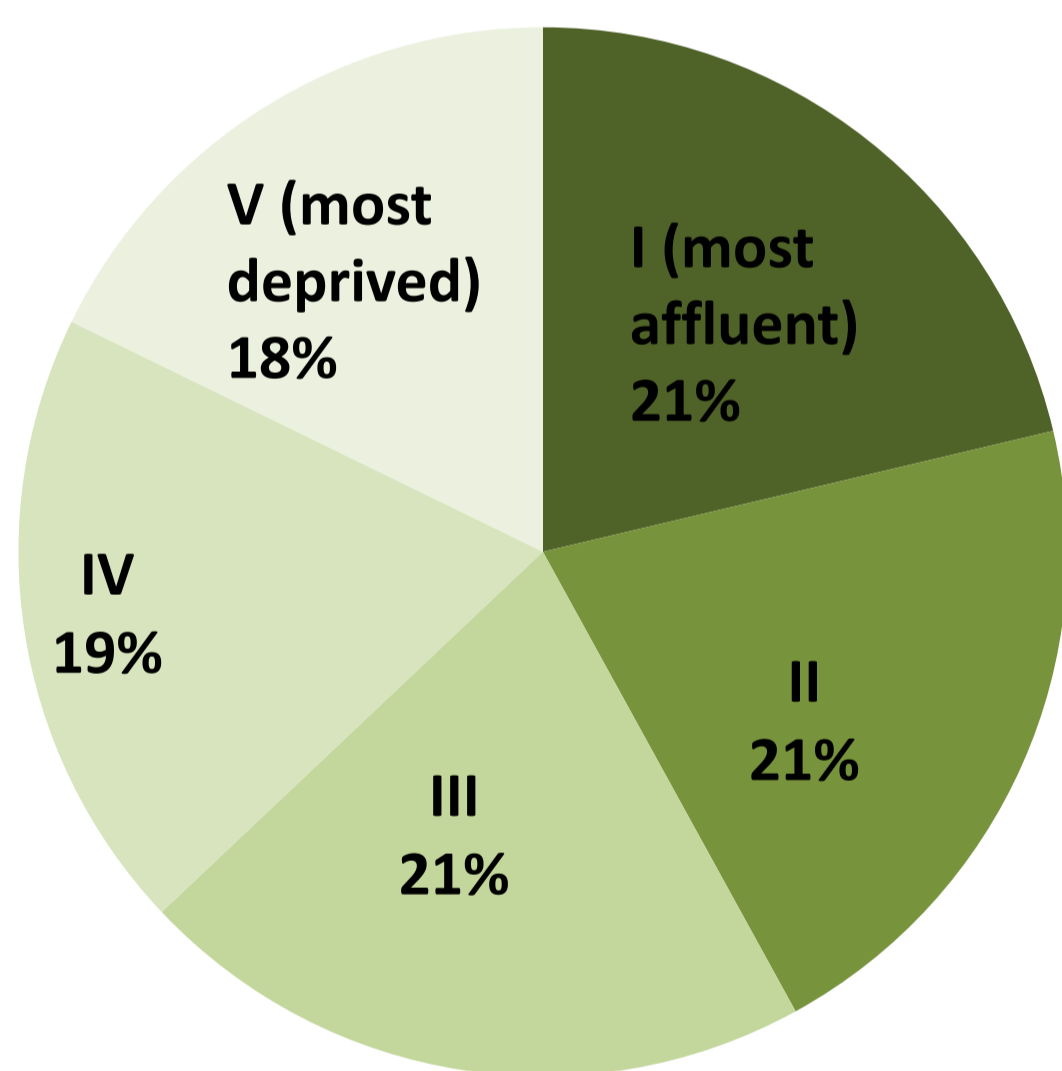
MATERIALS AND METHODS

- The cancer data source was the Basque Country Cancer Registry.
- The study population were the HCC cases diagnosed among BC's residents between 2011 and 2015.
- As reference population, the 2013 European population was used.
- Five SES levels were determined after obtaining for each small census area (2011 census) an index of deprivation (ID), calculated from census-based socioeconomic indicators (unemployment, manual work, temporary work, low educational attainment and low educational attainment among youngsters), and grouping these areas by index (I, most affluent, to V, most deprived).
- The Age-Standardized Incidence Rate (ASR) of HCC was calculated for each index level by sex.
- Number of cases, crude rate, ASR and ASR ratio, for each sex by index of deprivation level were calculated.

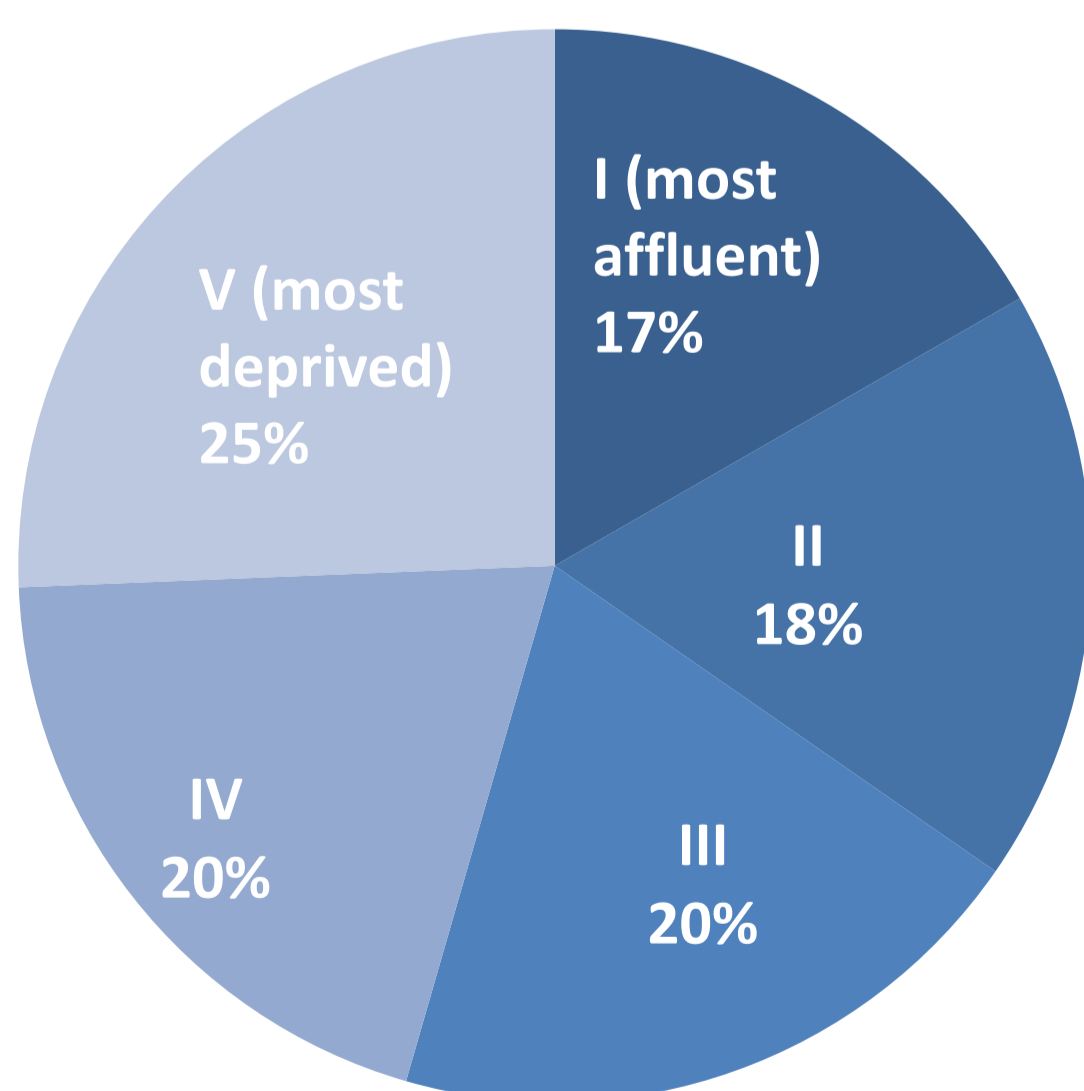
RESULTS

- Between 2011 and 2015, 1180 HCC were diagnosed in men and 298 in women. The SES level could be determined for 98% of the cases, 1155 men and 288 women.
- The incidence of HCC in men is seen to decrease with increasing socioeconomic status (SES). Statistically significant differences in incidence were observed between the population level with the lowest SES, index of deprivation V (ASR:32.48; 95% CI:28.8-36.2) and that with the highest SES, index of deprivation I (ASR:19.6/100000; 95% CI: 16.7-22.4).
- In women the same effect was observed but the difference was not significant, which can be attributed to the smaller incidence among women.
- ASR ratios increase with decreasing SES.

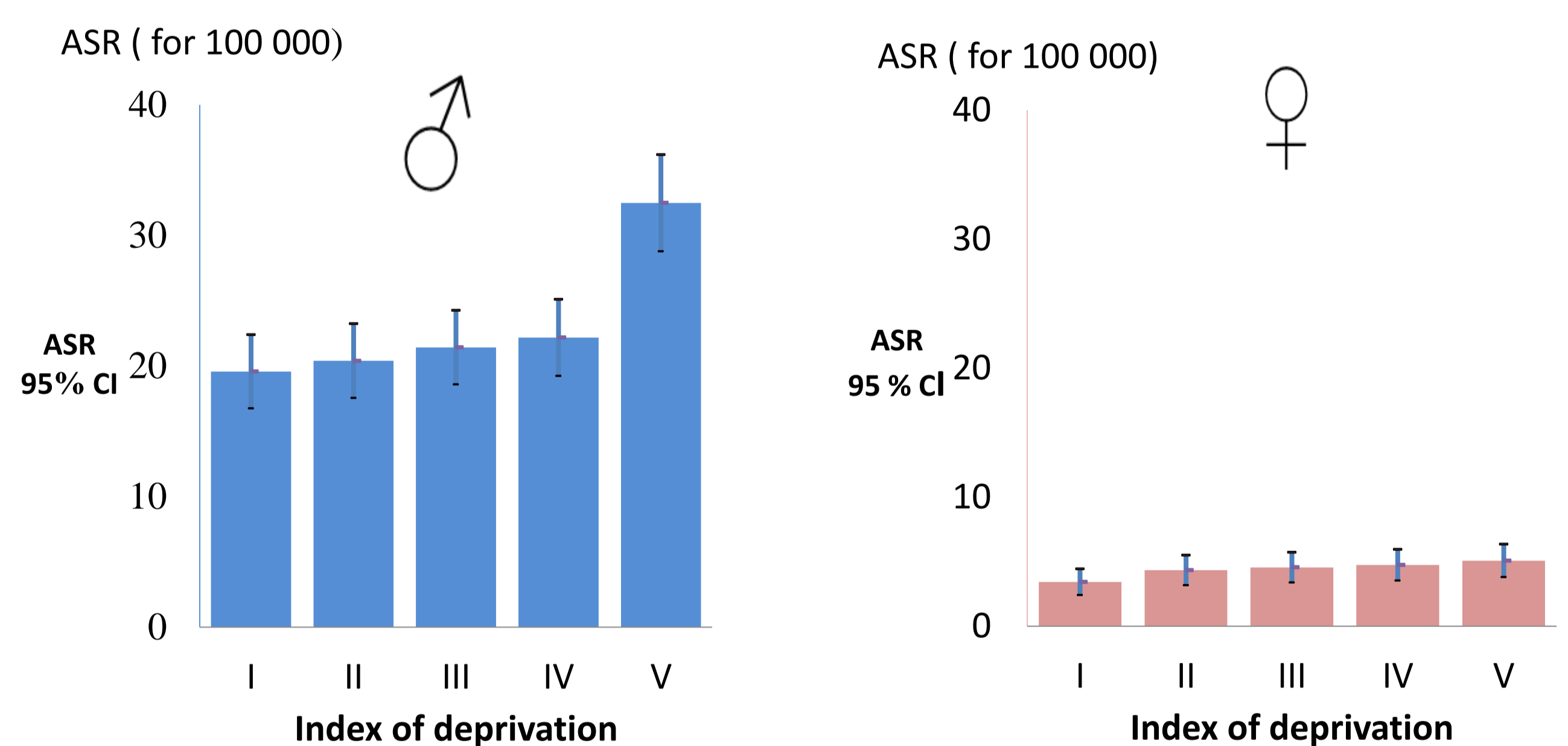
Relative frequency (%) of people at risk by ID. BC's Cancer Registry. 2011-2015



Relative frequency (%) of HCC by ID. BC's Cancer Registry. 2011-2015



The Age-Standardized Incidence Rate (ASR) of HCC for each SES level by sex. Cancer Registry of Basque Country . 2011-2015



Cases, crude rate, ASR and ASR ratio, for each sex by index of deprivation level. Cancer Registry of Basque Country . 2011-2015

ID	Cases	Crude rate	Men			Women				
			ASR	ASR ratio	95% IC	Cases	Crude rate	ASR	ASR ratio	95% IC
I (most affluent)	196	17.75	19.57	1		45	3.70	3.43	1	
II	203	18.36	20.39	1.04	0.88 1.23	56	4.87	4.35	1.27	0.85 1.89
III	226	20.13	21.42	1.09	0.93 1.29	60	5.17	4.56	1.33	0.90 1.97
IV	225	21.85	22.17	1.13	0.96 1.33	62	5.79	4.75	1.38	0.94 2.05
V (most deprived)	305	31.93	32.48	1.66	1.44 1.91	65	6.62	5.08	1.48	1.00 2.19

CONCLUSIONS

- People in the lowest SES level had the highest incidence rates of HCC in both sexes. At the same time, lifestyle surveys in the BC show that alcohol consumption is highest among more affluent people.
- Further research is needed for a better characterization of the relationship between SES and its related HCC incidence risk factors, including alcohol consumption.