

## ILC 2017: Cold weather and fewer hours of sunlight are associated with an increase in rates of alcoholic cirrhosis

***Alcoholic cirrhosis is a disease which causes nearly half a million deaths every year<sup>1</sup>***

**April 22, 2017, Amsterdam, The Netherlands:** New data presented today at The International Liver Congress™ 2017 in Amsterdam, The Netherlands, suggests that colder and less sunny regions of the world have higher rates of alcoholic cirrhosis, a disease caused by excessive drinking which results in irreversible scarring of the liver. An international team of scientists analysing data from over 190 countries found that every increase in temperature of one degree Celsius was linked with a decrease in the alcohol-attributable fraction (AAF\*) of cirrhosis of 0.3%. Heavy alcohol intake causes a perception of warmth, while fewer sunlight hours have been linked to depression which in turn, may lead to alcohol abuse. As a result, the researchers hypothesised that colder countries would have higher rates of alcohol consumption and therefore an increased burden of alcoholic cirrhosis.

Alcohol-attributable liver cirrhosis makes up around half of all causes of liver cirrhosis and is responsible for an estimated 493,000 deaths globally every year, or 0.9% of deaths worldwide.<sup>1</sup> According to the World Health Organization (WHO), Europe is the heaviest drinking region in the world in terms of the prevalence of alcohol consumption.<sup>2</sup> Alcohol is also a major cause of liver disease, including liver cirrhosis, which accounts for 1.8% of all deaths in Europe or around 170,000 deaths per year.<sup>3</sup>

“Our research reveals that a country’s climate and geographical location have a startling influence on the burden of liver cirrhosis,” said Dr Neil D. Shah, lead author of the study, and senior author, Dr Ramon Bataller, from the University of North Carolina, Chapel Hill, United States. “As average temperatures and yearly hours of sunshine decrease and latitude increases, rates of alcohol-attributable cirrhosis increase. This suggests that drinking alcohol excessively to combat the cold and dark could put people at increased risk of suffering from alcoholic cirrhosis.”

The research team, made up of academics from Canada, Mexico, Spain and the USA, conducted a comprehensive analysis of data from 193 countries taken from WHO and World Meteorological Organization databases. This involved collating information on heavy alcohol consumption, binge drinking, average temperature, climate, latitude and hours of yearly sunshine, to determine their influence on alcohol-attributable liver cirrhosis.

In the univariate analysis conducted by researchers, there was an inverse association between mean average temperature, mean annual sunshine hours and a positive association with absolute latitude ( $p < 0.05$ ) with AAF. In the multivariate analysis, average temperature and sunshine hours remained independently associated with the burden of

\*AAFs are used to express the extent to which alcohol contributes to a health outcome, such as alcohol poisoning, non-alcohol poisoning, road traffic injuries, falls, drownings, violence, and other unintentional or intentional injuries.

alcohol-attributable liver cirrhosis or AAF after adjusting for the percentage of binge drinkers among active drinkers and alcohol consumption ( $p < 0.05$ ).

“Although association does not imply causality, these provocative data provide a strong argument in favour of the hypothesis that the amount of alcohol intake, and, as a result, the risk of alcohol-related cirrhosis, depends on latitude. It remains to be seen to what extent other factors, such as ethnic, cultural and religious backgrounds, may attenuate this association. This important study will certainly add to the current debate on what appropriate public policy measures are to be undertaken depending on climate to prevent alcohol-related cirrhosis,” said Prof Francesco Negro, Divisions of Gastroenterology and Hepatology of Clinical Pathology, University Hospital of Geneva, Switzerland, and EASL Governing Board Member.

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### **About The International Liver Congress™**

This annual congress is the biggest event in the EASL calendar, attracting scientific and medical experts from around the world to learn about the latest in liver research. Attending specialists present, share, debate and conclude on the latest science and research in hepatology, working to enhance the treatment and management of liver disease in clinical practice. This year, the congress is expected to attract approximately 10,000 delegates from all corners of the globe. The International Liver Congress™ 2017 will take place from April 19 – 23, at the RAI Amsterdam, Amsterdam, The Netherlands.

### **About The European Association for the Study of the Liver (EASL) ([www.easl.eu](http://www.easl.eu))**

Since its foundation in 1966, this not-for-profit organisation has grown to over 4,000 members from all over the world, including many of the leading hepatologists in Europe and beyond. EASL is the leading liver association in Europe, having evolved into a major European Association with international influence, with an impressive track record in promoting research in liver disease, supporting wider education and promoting changes in European liver policy.

### **Contact**

For more information, please contact the ILC Press Office at:

- Email: [ILCpressoffice@ruderfinn.co.uk](mailto:ILCpressoffice@ruderfinn.co.uk)
- Telephone: +44 (0)7841 009 252

### **Onsite location reference**

**Session title:** Parallel session: Alcohol and drug induced liver injury

**Time, date and location of session:** 08:00 – 09:45, Saturday 22 April, Forum

**Presenter:** Neil Shah, United States of America

**Abstract:** Colder weather and fewer sunlight hours increase the weight of alcohol as a cause of cirrhosis worldwide (PS148), 08:30 – 08:45

### **Author disclosures**

None.

### **References**

1 Rehm J. et al. Global burden of alcoholic liver diseases. *Journal of Hepatology*. 2013;59.1:160-168.

2 World Health Organization. European Status Report on Alcohol and Health: World Health Organization. Regional Office for Europe; 2010. Available from:

<http://www.euro.who.int/en/publications/abstracts/european-status-report-on-alcohol-and-health-2010>. Last accessed: April 2017.

3 Zatoński W.A., et al. Liver cirrhosis mortality in Europe, with special attention to Central and Eastern Europe. *European Addiction Research*. 2010;16.4:193-201.