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## Commentary

# We need to address health disparities to combat alcohol-related harm

Maja Thiele<sup>1,2,\*</sup><sup>1</sup> Centre for Liver Research, Department of Gastroenterology and Hepatology, Odense University Hospital, Odense, Denmark<sup>2</sup> Department of Clinical Research, University of Southern Denmark, Odense, Denmark

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Danish citizens with the lowest educational attainment have a five-fold higher incidence of alcohol-related liver disease (ALD) than those with the highest [1]. Askgaard and colleagues make this and other observations in a nationwide, registry-based study, which reveal substantial socioeconomic inequalities in the incidence of ALD during the past decade in Denmark [1]. They found an overall incidence rate of ALD in Denmark from 2009-2018 of 529 per million person-years, but this covered a range from 181 to 910 in those at the highest educational level compared to those at the lowest educational level; and from 211 to 1706 and 3449 in those employed, outside the labour force, or unemployed, respectively. These data underline the grave disparities in liver-related health, similar to what is known from overall alcohol-related harm [2]. While ALD most often debuts in middle-aged patients, the data presented by Askgaard and colleagues suggests that health disparities even from early age contribute to alcohol-related harm. For example, only 59% of future ALD patients were employed 10 years prior to diagnosis, compared to 89% of controls. And the inequality in ALD by education was present already in the youngest age group of 30-39 year olds, where those with the lowest educational attainment had a 10 times higher incidence of ALD than patients of the same age, with the highest educational attainment. This has two important implications. First, it suggests that poor socioeconomic status is a contributing factor to the development of alcohol-related harm, indicating that measures to reduce economic inequality and improve educational level may reduce ALD morbidity and mortality. This is in line with a

statement from the LANCET-EASL Commission on liver diseases in Europe [3]. In accordance, on a country level, socioeconomic factors such as gross domestic product, government expenditure on health, and the Gini coefficient all associate with liver mortality [4]. Second, referral strategies targeting people of low education, unemployed or outside the labour force may be more cost-effective for early detection of ALD than untargeted strategies such as general population screening using non-invasive tests, or testing by demand in primary healthcare [5].

Alcohol is a particularly interesting risk factor for studying health inequality, because of the *alcohol-harm-paradox*: While overall alcohol consumption is relatively balanced across socioeconomic groups, individuals of low socioeconomic status experience far higher rates of alcohol-related harm than individuals of high socioeconomic status [6]. The article by Askgaard et al proves that the alcohol-harm-paradox also applies to alcohol-related liver disease, though they did not explore whether the health inequality observed for ALD is worse, similar or better than for alcohol-related harm overall. Another interesting path of exploration for future studies is whether the health inequality gap is widening or narrowing for ALD. Authors from the present study previously showed improved survival of Danish ALD patients in 2011-2013, compared to stagnating survival in the years from 1996 to 2010 [7]. It would be highly alarming if ALD patients with poor socioeconomic status did not benefit from this improved survival.

There may be several reasons for the alcohol-harm-paradox, particularly differences in drinking pattern, comorbidity, and health literacy. For example, a large UK survey showed that people in a low occupational category reported fewer drinking occasions than those in professional-managerial occupations, but at the same time reported more binge drinking and higher consumption on an average

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\* Corresponding author: Maja Thiele, Centre for Liver Research, Department of Gastroenterology and Hepatology, Klørvænget 12, entrance 110, 11. Floor, Odense University Hospital, DK-5000 Odense, Denmark.

E-mail address: [maja.thiele@rsyd.dk](mailto:maja.thiele@rsyd.dk)<https://doi.org/10.1016/j.lanepe.2021.100198>2666-7762/© 2021 The Author. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

drinking day [8]. Aggravated liver disease severity due to concomitant obesity and type 2 diabetes, which show clear socioeconomic disparities, may also drive adverse outcomes in lower socioeconomic groups, as synergy between alcohol and metabolic risk factors is a major driver of liver disease progression [9]. Finally, poor health literacy in individuals of lower educational attainment may lead to delayed diagnosis, inability to select options for optimal care, and lack of social support from relatives.

In conclusion, the article by Asggaard and colleagues show how alcohol and health disparities constitute a perfect storm for liver-related disease, and that we urgently need to address health disparities to effectively combat alcohol-related harm.

### Contributions

MT searched the literature, and wrote the commentary.

### Declaration of Interests

Dr. Thiele reports personal fees from Echosens, personal fees from Siemens healthcare, personal fees from GE Healthcare, personal fees from Norgine, outside the submitted work

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