Low-moderate alcohol use is associated with a lower prevalence of non-alcoholic fatty liver disease in Hispanics/Latinos living in the US: Results from the Hispanic Community Health Study/Study of Latinos (HCHS/SOL)

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Objective
To examine the relationship between low-moderate alcohol intake and non-alcoholic fatty liver disease (NAFLD) in a population-based cohort of Hispanics/Latinos living in the US.

Introduction
NAFLD is common in the US and worldwide with a global prevalence of 20% to 30%. Chronic liver disease is a major cause of morbidity and mortality in Hispanics/Latinos in the US with a higher incidence, more aggressive disease patterns, and less favorable treatment outcomes for many liver disorders compared with the non-Hispanic white population.1,2

Alcohol use is a known risk factor for liver injury. In contrast, some studies have suggested that modest alcohol use is associated with beneficial effects on the liver.2-6

The close-response mode of modest alcohol use on the liver has not been well studied among persons of Hispanic/Latino background.

Methods
Source Population:
Hispanic Community Health Study/Study of Latinos (HCHS/SOL)

- Population-based cohort of 16,415 Hispanic/Latino adults age 18-74 living in the US.
- Includes cuisines of Mexican, Puerto Rican, Dominican, Cuban, Central American, and South American, or more than one/other background.

- Recruited by field centers in Bronx, Chicago, Miami, and San Diego.

- Longitudinal study with baseline data collected between 2008-2011.

- Participants underwent interviews, physical examinations, and laboratory tests.

Results

Figure 1: Alcohol Use Weighted Prevalence (%) (95% CI)

Figure 2: NAFLD and Liver Fibrosis Prevalence (%)

Table 1: Characteristics by Alcohol Use Category

<table>
<thead>
<tr>
<th>Alcohol Use</th>
<th>Mean (SD)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>35.9 (9.5)</td>
<td>0.0001</td>
</tr>
<tr>
<td>Former</td>
<td>40.2 (9.3)</td>
<td>0.0034</td>
</tr>
<tr>
<td>Occasional</td>
<td>41.3 (8.7)</td>
<td>0.0001</td>
</tr>
<tr>
<td>Low-moderate</td>
<td>42.8 (9.1)</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

Table 2: NAFLD Prevalence and Age-adjusted Odds Ratios by Alcohol Use Category

- The prevalence of NAFLD was lower among occasional and low-moderate alcohol users compared to never drinkers.

- The strongest association was between NAFLD with fibrosis and low-moderate alcohol use with an over 40% lower odds compared to never drinkers.

Figure 3: Multivariable-adjusted NAFLD Odds Ratios (95% CI) by Alcohol Use Category

Conclusion
Among Hispanic/Latino adults in the HCHS/SOL, former and low-moderate alcohol use was associated with a lower prevalence of NAFLD and liver fibrosis; occasional drinking was associated with a lower prevalence of NAFLD.

These cross-sectional associations may be mediated through effects of varying degrees of insulin resistance. Examination of the longitudinal relationship between alcohol use and liver health among HCHS/SOL participants is underway during the second study visit (2014-2017).

References

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[Hyperlink to further resources and studies]