

Exploring the Impact of Social and Environmental Vulnerabilities on Liver Disease: A Southern Liver Health Study (STRIVE) Cohort Study

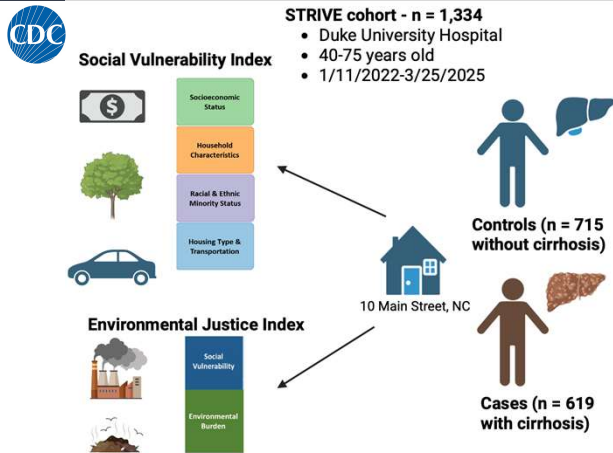
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PURPOSE / OBJECTIVES

- Individual factors (age, insurance, poverty, and lifestyle) are established risks for cirrhosis
- Less is known about community – level socio-environmental factors
- Aim:** To identify the relationship between two area-level indices, the Environmental Justice Index Social-Environmental Ranking (EJI-SER) and Social Vulnerability Index (SVI), and cirrhosis

MATERIAL & METHODS



Analysis: Multivariable logistic regression assessing odds of cirrhosis by address EJI-SER and SVI controlling for age, sex, race-ethnicity

RESULTS

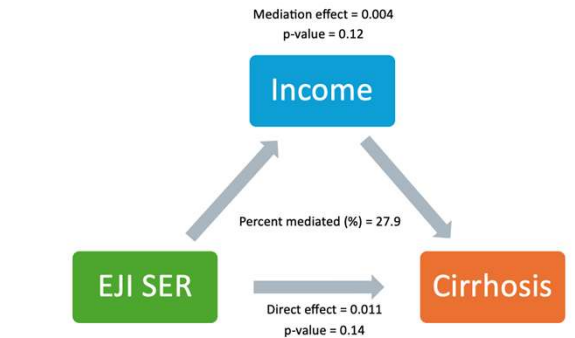
	Cases	Controls	SMD*
Median Age	62	60	0.18
Sex, Male	49%	38%	0.22
Median BMI	30.3	30.4	-0.003
Income < \$50,000	44.1	33.9%	0.23
Race			0.41
Non-Hispanic Black	16%	33%	
Non-Hispanic White	78%	62%	
Hispanic	3%	2%	
Mean SVI	0.53	0.5	0.05
Mean EJI-SER	0.44	0.41	0.09

*SMD = Standard Mean Difference
SMD < 0.2 considered small effect
SMD > 0.8 considered large effect

RESULTS

Variables	Model 1: EJI-SER percentile rank OR (95% CI)	Model 2: Total SVI percentile rank OR (95% CI)
Community-level index (unit=0.1)	1.09 (1.05, 1.14)	1.06 (1.02, 1.11)
Age (unit=1 year)	1.02 (1.01, 1.03)	1.02 (1.01, 1.03)
Sex (Female vs. Male)	0.68 (0.54, 0.85)	0.68 (0.56, 0.86)
Race-ethnicity		
Hispanic vs. NH-White	1.50 (0.74, 3.06)	1.45 (0.72, 2.94)
NH-Black vs. NH-White	0.34 (0.25, 0.40)	0.36 (0.27, 0.47)
NH-Other vs. NH-White	0.81 (0.40, 1.63)	0.83 (0.42, 1.67)

For every 10% increase in overall environmental vulnerability, odds of cirrhosis increased by 9.4%; for every 10% increase in overall social vulnerability, odds of cirrhosis increased by 6.3%



Income and BMI did not mediate the association between EJI-SER or SVI and cirrhosis (Figure)

- Environmental and social vulnerability were associated with increased odds of cirrhosis in the STRIVE cohort
- Environmental vulnerability as a risk for cirrhosis is a novel finding and reinforces the importance of community-level determinants of health in liver disease.
- Additional research is needed to understand mechanisms linking these community level socio- environmental vulnerabilities with cirrhosis to implement interventions designed to mitigate these health hazards and lower cirrhosis risk.



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