

Shaeera F. Rahman
Undergraduate
Loyola University New Orleans, New Orleans Louisiana

Denise Danos, PhD
Behavioral and Community Health Sciences Program, School of Public Health, Louisiana State
University Health, New Orleans, LA

“Evaluation of clinical risk factors in Hepatocellular Carcinoma: A case-control study in Southeast Louisiana.”

Hepatocellular Carcinoma (HCC), a prominent form of liver cancer, is one of the few cancers in which incidence has increased over the past decade in the United States. Louisiana experienced great increases in liver cancer over the past few years, making it the fastest growing cancer in state. The objective of this study is to assess the relationship between HCC and known clinical risk factors like viral hepatitis, specifically Hepatitis C (HCV), metabolic conditions such as non-alcoholic fatty liver disease, diabetes and obesity, as well as alcohol abuse.

For this study, we conducted a retrospective case-control study using data collected from the Louisiana Tumor Registry and Louisiana Public Health Institute’s Research Action for Health Network (REACHnet), a clinical data research network. Cases of primary invasive HCC diagnosed 2010-2015 in patients 35 years or older were identified by LTR and linked to their medical records in REACHnet. The controls used for this research were derived from a random sample of disease-free individuals. HCC risk was modeled with logistic regression models, controlling for age, sex and race. The regression models were stratified by race and sex to control for potential confounding.

The study dataset included 758 cases and 23,270 controls. Of the cases, 80.2% were male and 62.5% were white. The most prevalent risk factor among cases was HCV (55.4%), followed by diabetes (42.2%) and alcohol use disorders (27.2%). HCV had the greatest HCC risk. Alcohol use disorders were also significantly associated with HCC, while metabolic conditions carried significant risk among white patients only.

Recently, Louisiana has experienced an influx of liver cancer diagnoses. We evaluated clinical risk factors among patients in a clinical research network in southeast Louisiana and found significant risk associated with Hepatitis C virus and alcohol use disorders. Additionally, metabolic conditions were found to have significant risk among white patients. While this epidemiological study is important in characterizing HCC in the region, these results do not provide evidence of causation and may not be generalized to racial/ethnic groups other than Black and white. Comprehensive HCC risk assessments among diverse populations in the US are important to public health efforts in cancer prevention and control.

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