UVEILING DISPARITIES IN PRIMARY LIVER CANCER: INSIGHTS FROM COMPREHENSIVE ANALYSES OF HISPANIC PATIENT OUTCOMES

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ABSTRACT

INTRODUCTION: Hispanics constitute 19% of the U.S. population, facing elevated risks of primary liver cancers, such as hepatocellular carcinoma (HCC) and intrahepatic cholangiocarcinoma, raising concerns about healthcare equity. However, routine reporting may obscure disparities among subpopulations.

METHODS: Research from 2004-2023 utilized the National Cancer Database and the Surveillance, Epidemiology, and End Results Program. Studies excluded liver metastases or secondary cancers. Detailed coding for Hispanic ethnicity (Non-Hispanic, Mexican, Puerto Rican, etc.) was used. Eligible studies underwent assessment for reporting of race and Hispanic ethnicity. Focused on HCC patients from 2004-2020, aiming to disaggregate Hispanic patients by race and heritage to identify disparities. Outcomes included HCC stage, treatment, and overall survival.

RESULTS: Of 1,476 studies, 670 met inclusion criteria. Within this cohort, 88.7% included race/ethnicity as a covariate, with Hispanic ethnicity reported in only 30.1%. Notably, none disaggregated Hispanic ethnicity by race. Among 199,190 patients, 12.5% identified as Hispanic. Hispanics, predominantly White (91.1%), displayed marked differences in presentation, treatment, and outcomes. They had greater odds of early-stage HCC but were less likely to undergo curative intent procedures (OR = 0.88; p < 0.001). Disaggregated by heritage, Mexican (HR 1.14; p = 0.044), Dominican (HR 0.65; p = 0.025), and Hispanic-other patients (HR 1.08; p = 0.019) had worse Overall Survival compared with Non Hispanic Whites.

CONCLUSIONS: The study underscores disparities in primary liver cancer outcomes among Hispanic patients, emphasizing the need for future studies to avoid aggregating. Addressing these disparities is crucial for accurate healthcare representation and promoting equitable care for Hispanic populations.

INTRODUCTION

Hispanic individuals, constituting 19% of the U.S. population, face elevated risks of primary liver cancers, such as hepatocellular carcinoma (HCC) and intrahepatic cholangiocarcinoma, compared to non-Hispanic patients. Disparities in primary liver cancer impact on Hispanic patients raise concerns about healthcare equity. Hispanic patients also exhibit a higher incidence and mortality from HCC, as indicated by routine reporting. However, routine reporting in aggregate may obscure potential disparities among subpopulations. In light of these issues, this study seeks to highlight said agregations and also seeks to highlight disparities in outcomes for primary liver cancers.

MATERIALS AND METHODS

Research spanning the period from January 1, 2004 - July 18, 2023, utilized the National Cancer Database (NCDB) and the Surveillance, Epidemiology, and End Results Program (SEER). The study, queried on Pubmed, excluded those focusing on liver metastases or secondary cancers, ensuring a specific focus on primary liver cancers. NCDB and SEER utilized a detailed coding system for Hispanic ethnicity, including Non-Hispanic, Mexican, Puerto Rican, Cuban, South/Central-American, Dominican Republic, Other, Not-specified, and Unknown. Eligible studies underwent assessment for the reporting of race and Hispanic ethnicity in patient demographics and study results. Additionally, using the National Cancer Database, focused on HCC patients diagnosed from 2004 - 2020. The Hispanic patients by race and aim was to disaggregate Hispanic heritage to identify potential disparities. Outcomes included presentation of early vs. late-stage HCC, undergoing curative-intent procedures, delayed treatment beyond 90 days, and overall survival.

CONCLUSION

This study underscores marked disparities in primary liver cancer outcomes among Hispanic patients. The underreporting of Hispanic ethnicity in liver cancer research, coupled with the implications of disaggregated HCC data, highlights the need for future studies to avoid aggregating Hispanic patients. Addressing these disparities is crucial for achieving a more accurate representation of healthcare outcomes and promoting equitable care for the diverse Hispanic population.

REFERENCES

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RESULTS

Among the 1,476 retrieved studies, 670 met inclusion criteria for review. Within this cohort, 88.7% included race/ethnicity as a covariate, with Hispanic ethnicity reported in only 30.1%. Notably, none of the studies disaggregated Hispanic ethnicity by race, contributing to a substantial underreporting of Hispanic ethnicity.

Variable	Early-Stage Presentation Adjusted OR	p-Value	Curative-Intent Procedure Adjusted OR	p-Value	Treatment Delay (>90 Days) Adjusted OR	p-Value	Overall Survial Adjusted HR	p-Value
Race/Ethnicity								
Non-Hispanic White		Ref.		Ref.		Ref.		Ref.
Non-Hispanic Black		<0.001		0.329		0.79		0.055
Non-Hispanic Other		<0.001		<0.001		0.29		0.005
Hispanic		0.013		<0.001		0.48		0.004
Hispanic by Race								
Hispanic White		0.004		0.005		0.58		0.025
Hispanic Black		0.299		0.309		0.93		0.073
Hispanic Other		0.963		0.179		0.27		0.012
Hispanic Heritage								
Mexican		0.231		<0.001		0.55		0.044
Puerto Rican		0.579		0.567		0.57		0.4
Cuban		0.199		0.968		0.07		0.3
South/Central American		0.302		0.672		0.5		0.8
Dominican		0.243		0.493		0.47		0.025
Other		<0.001		0.06		0.41		0.019

Figure 1: Most Hispanics identified as White (91.1%), with the largest Hispanic heritage group being Hispanic other (70.9%). Hispanic patients had greater odds of presenting with early-stage HCC versus non-Hispanic White (NHW) patients (OR = 1.10; p = 0.004) (Figure). Hispanic patients were less likely to undergo curative intent procedures (OR = 0.88; p < 0.001), which was largely attributable to Hispanic White (OR = 0.91; p = 0.005) and Mexican (OR = 0.75; p < 0.001) patients.
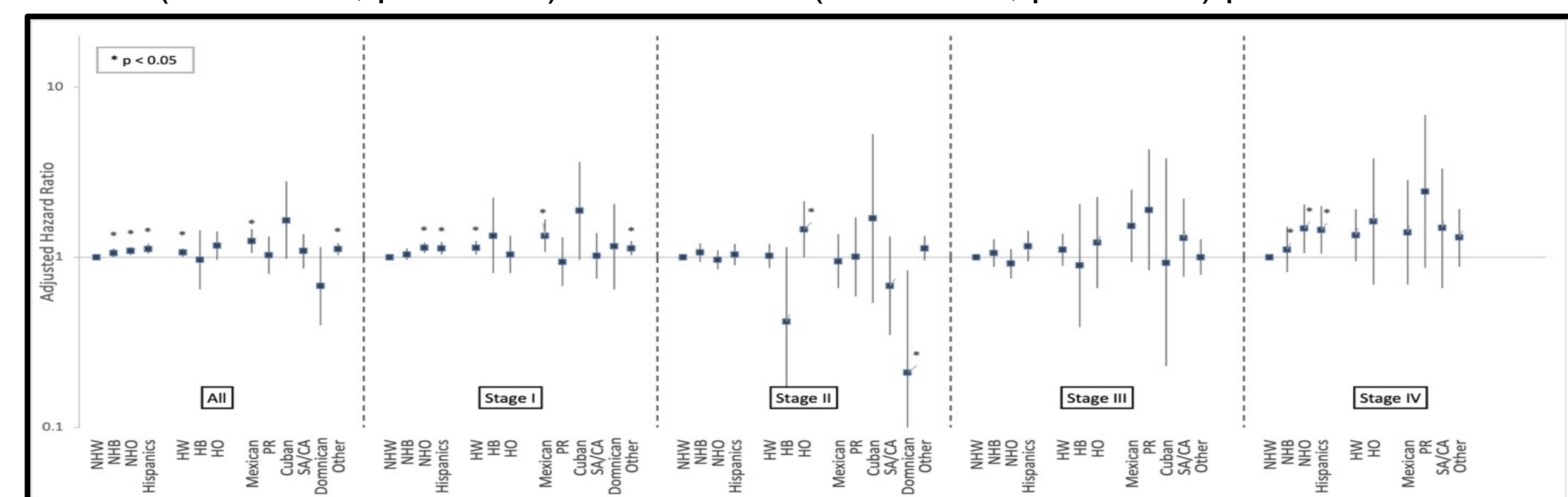

Figure 2: When disaggregated by heritage, Mexican (HR 1.14; p = 0.044), Dominican (HR 0.65; p = 0.025), and Hispanic other patients (HR 1.08; p = 0.019).
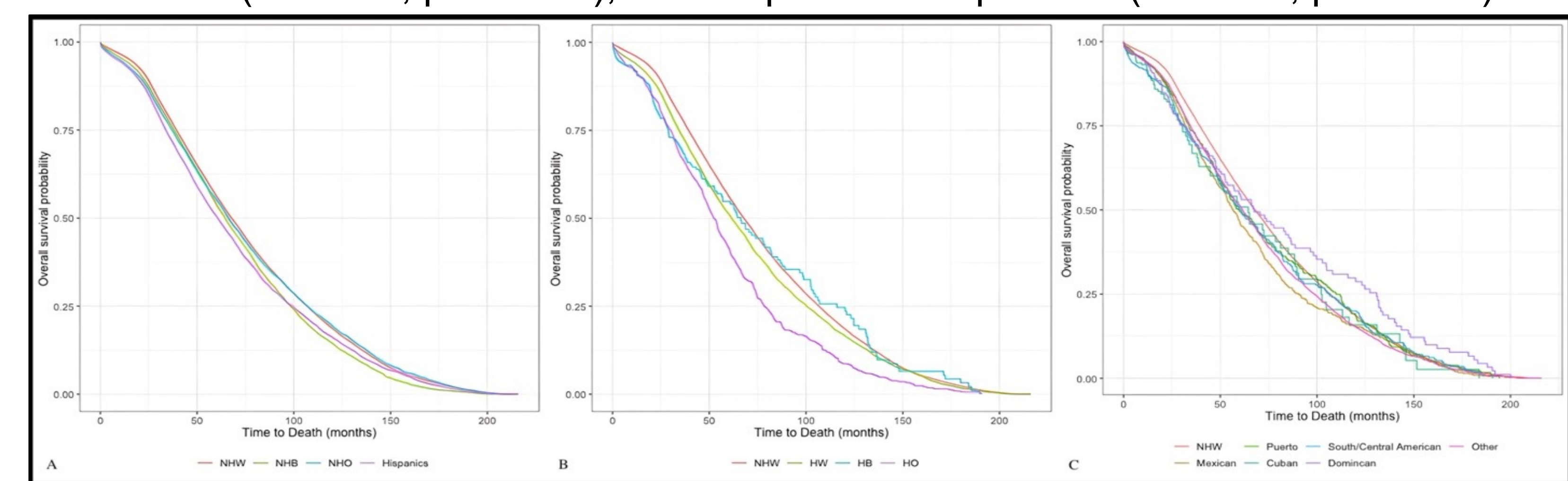

Figure 3: When disaggregated by heritage, Puerto Rican, Mexican, Cuban, Dominican, South/Central American, and other had worse OS compared with NHW patients.