

# NAFLD in an African American Dominant Urban Medical Center

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## INTRODUCTION

- Obesity, DM, HTN and metabolic syndrome (MtS) are associated with nonalcoholic fatty liver disease (NAFLD).
- NAFLD is sometimes used as a broad category to include nonalcoholic fatty liver (NAFL) or nonalcoholic steatohepatitis (NASH).
- While there is an increase in MtS in the US, both gender and race variations result in complicating factors in defining prevalence [1]. Typically, Hispanics are more likely than Caucasians and African Americans (AA) to have MtS [2].
- The AA population is known to have a lower incidence of NAFLD as compared to Caucasian and Hispanic Americans [3].

## METHODS

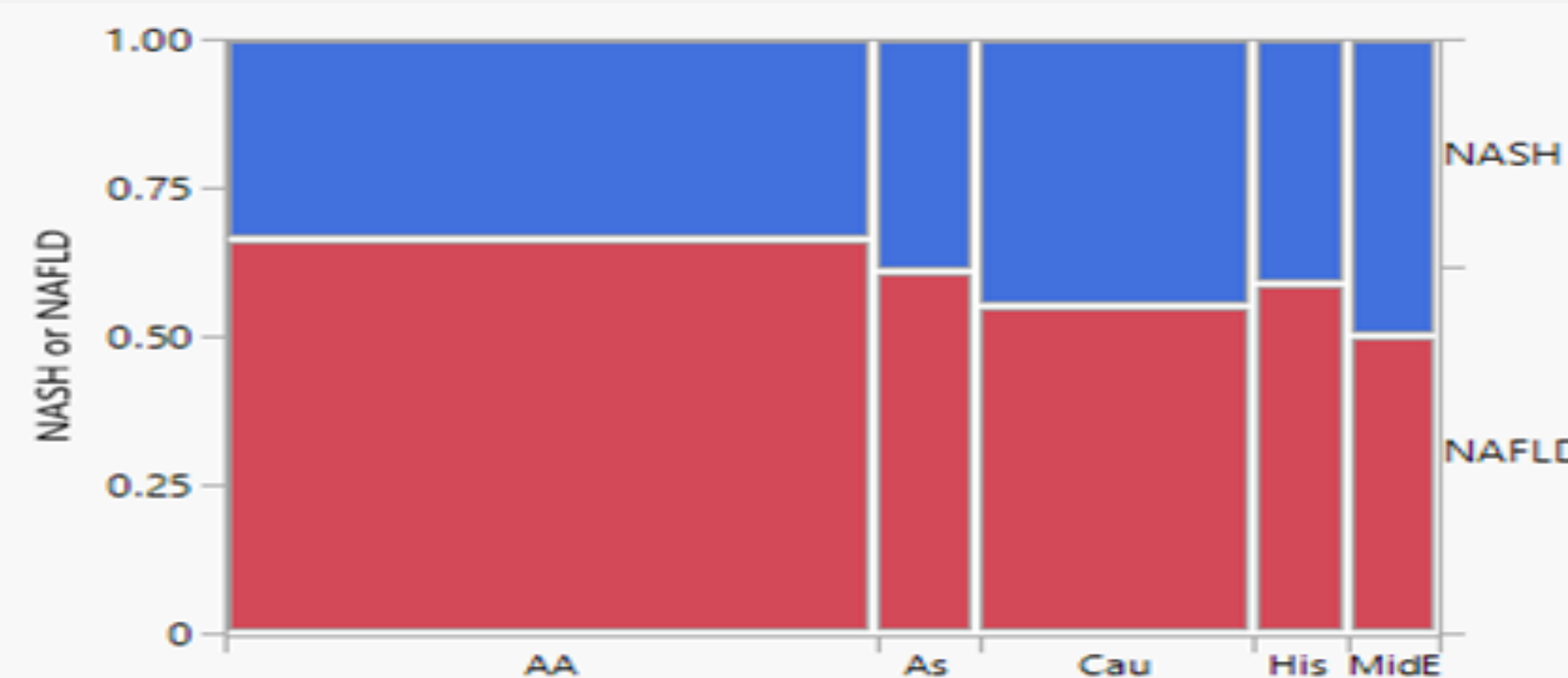
- Used medical records of patients with the ICD code for NASH (K75.81) or NAFLD (K76.0) from 2017-2020 from institutional EMR.
- Defined NAFLD patients as those with significant steatosis (by ultrasound) and minimal fibrosis as compared to NASH patients with significant steatosis and advanced fibrosis (F2-F4).
- A single arbitrator assessed the data to confirm patients as having either NAFLD (significant liver steatosis with minimal fibrosis (F0-F1)) or NASH (significant liver steatosis with significant fibrosis (F2-F4)).
- Statistical analysis was performed using JMP-SAS software.

## PATIENTS

- We identified 216 (NAFLD 133, NASH 83) patients who had sufficient data to confirm diagnosis.
- Of the 216 patients, AA= 116 (54%), As= 18 (8%), Cau= 48 (23%), His= 17 (8%), Mid Eastern= 16 (7%), Unknown = 1.
- Female= 143 (66%), Male= 73 (34%)
- Age for NASH= 56 years vs NAFLD = 48 years (p=0.0002).
- Only 54% of patients were seen by a GI physician (NAFLD 56%, NASH 49%).
- Bariatric surgery was performed in 18% of NASH and 11% of NAFLD patients.

## RESULTS

**Figure 1:** Ratio for NAFLD to NASH by race



- Although AA were less likely to have NASH as compared to other ethnicities, there was no statistically significant difference by race. The data is presented as a mosaic plot with the width of the bars representing the number of patients in each group.
- Of the total AA patients with NAFLD, 34% had NASH which was not statistically significant in proportion when compared to the 44% non-AA NASH patients (p=0.12).

**Table 1: Racial Differences in NAFLD and NASH patients**

	NAFLD			NASH		
	AA	Non-AA	p-value	AA	Non-AA	p-value
<b>HTN</b>	56%	52%	0.54	69%	52%	0.11
<b>Diabetes</b>	43%	43%	1.00	57%	57%	0.97
<b>Obesity (BMI&gt;30)</b>	68%	61%	0.41	77%	75%	0.83
<b>Metabolic Syndrome</b>	38%	32%	0.51	46%	46%	0.95
<b>Age</b>	49	43	<b>0.04</b>	56	51	0.12
<b>BMI</b>	34.4	32	0.09	38	35.9	0.34
<b>NFS</b>	-1.4	-1.84	0.18	0.31	0.41	0.84
<b>BARD</b>	2.19	2.11	0.75	2.74	2.79	0.96
<b>APRI</b>	0.25	0.35	<b>0.03</b>	0.57	0.81	0.09
<b>FIB-4</b>	0.74	0.91	<b>0.04</b>	2.08	2.15	0.88

- Age at diagnosis (AA older), APRI and FIB-4 (AA lower) were significantly different for patients with NAFLD.
- APRI and FIB-4 scores were also lower in AA NASH than non-AA NASH patients, but the difference was not significant.
- Common risk factors for NAFLD (HTN, DM, obesity, and MtS) were not significant when compared in proportion of population between AA and non-AA patients.
- Significant number of patients did not have common risk factors for NAFLD.

## DISCUSSION

- Our percentage of NAFLD AA patients did not reflect the percentage of the broader clinic population suggesting a potential protective effect of ethnicity with relation to NAFLD.
- Most of the risk factors were more pronounced in NASH as compared to NAFLD.
- There were no major racial differences in risk factors that could account for the known lower incidence of NAFLD in AA versus non-AA patients.
- The fact that almost half of the NAFLD (44%) and NASH (51%) patients were not referred to GI probably reflects the appreciation of physicians that counseling lifestyle modifications and handling risk factors such as hypertension and diabetes remains the primary pathway to preventing NAFLD from progressing to NASH.

## CONCLUSIONS

- Further study over a longer time period is necessary to elucidate the underlying causality and progression from NAFLD to NASH.
- This study suggests a potential protective effect of African American ethnicity as related to progression of fibrosis in NASH patients

## REFERENCES

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## DISCLOSURES

The authors have no disclosures to report.