



Specialty Clinic Care Mitigates Fatty Liver Disease Outcomes in Patients with Psychiatric Comorbidities

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INTRODUCTION

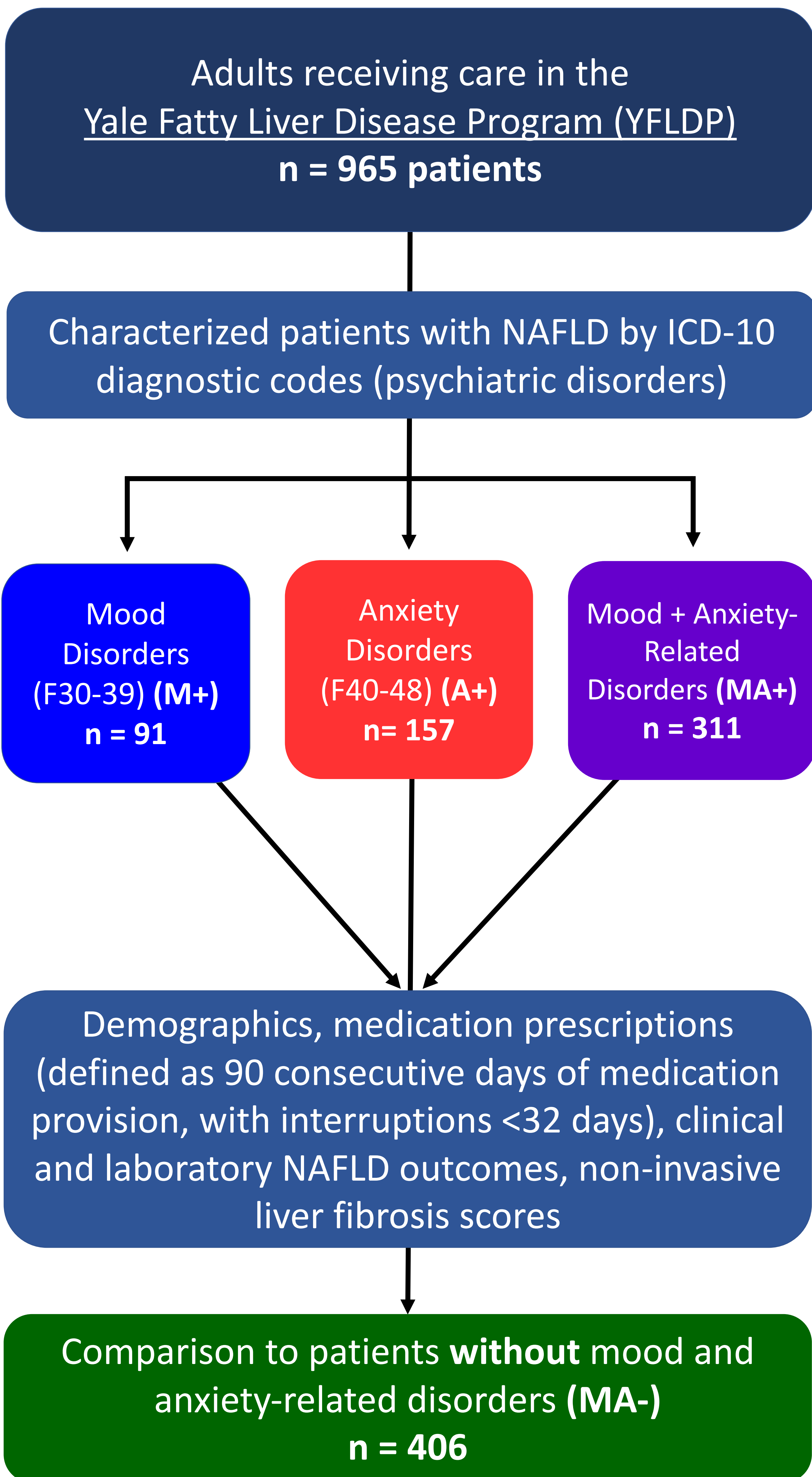
Nonalcoholic fatty liver disease (NAFLD) is increasingly prevalent among Americans and often comorbid with psychiatric disorders.

Mood and anxiety disorders are associated with higher liver steatosis

Psychopharmacotherapies are often **obesogenic**.

Research Question: Does a specialty clinic integrating weight management and hepatology care mitigate liver health and weight changes in patients with mood and anxiety disorders?

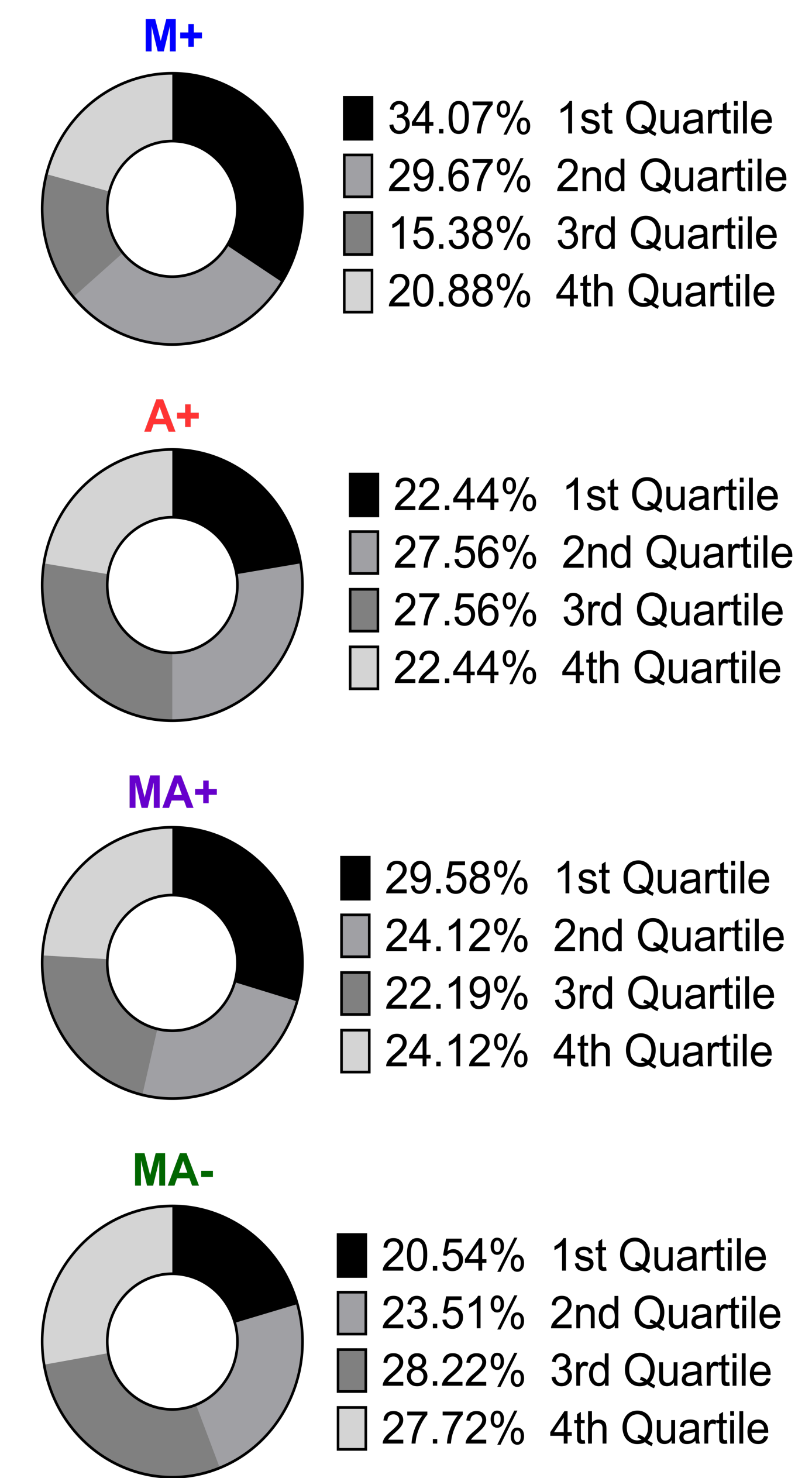
METHODS



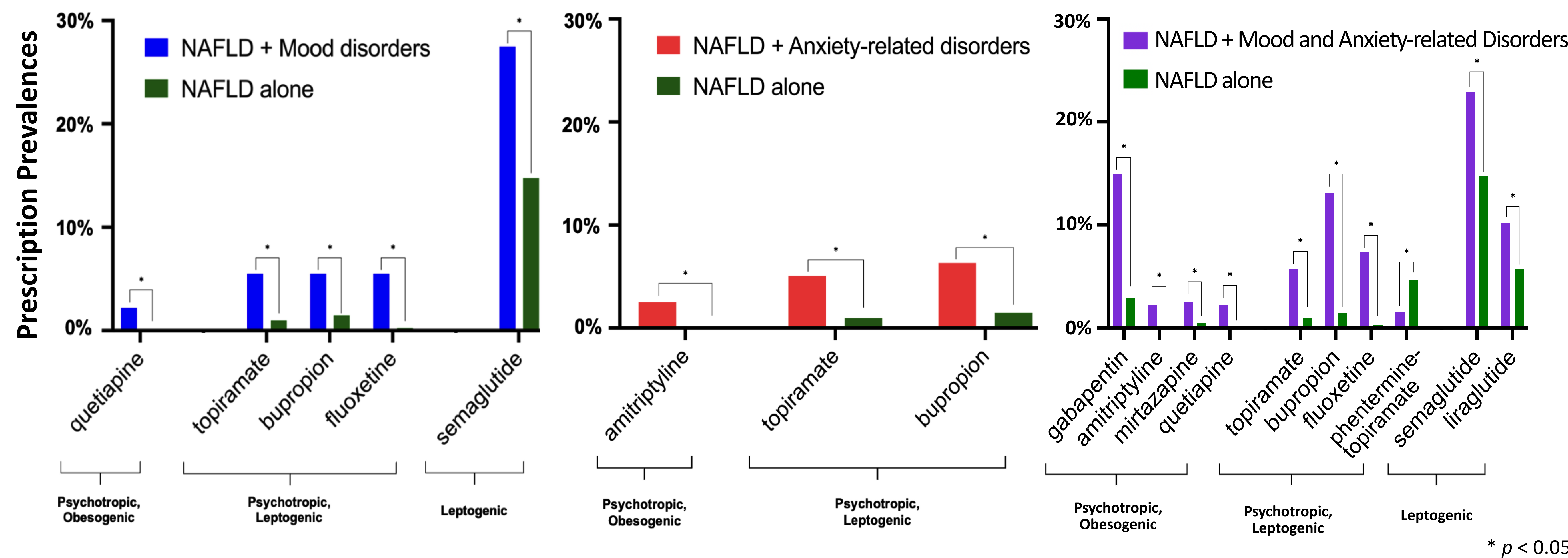
RESULTS: CLINICAL CHARACTERISTICS, METABOLIC & LIVER-RELATED OUTCOMES

	Mood Disorders (M+)	Anxiety-related Disorders (A+)	Mood and Anxiety-related Disorders (MA+)	NAFLD w/o Mood and Anxiety-related Disorders (MA-)	p-value		
					M+ vs MA-	A+ vs MA-	MA+ vs MA-
NAFLD Patient Characteristics							
N	91	157	311	406			
Age (years)	55.3 (12.6)	53 (14)	51.3 (13.3)	54.5 (13.3)	0.57	0.27	0.001*
Sex							
Female (%)	59 (64.8)	99 (63.1)	225 (72.3)	178 (43.8)	<0.001*	<0.0001*	<0.0001*
Male (%)	32 (35.2)	58 (36.9)	86 (27.7)	228 (56.2)			
Race							
White (%)	73 (80.2)	129 (82.2)	244 (78.5)	317 (78.1)	0.75	0.30	0.98
Black (%)	9 (9.9)	6 (3.8)	25 (8)	33 (8.1)			
Other (%)	7 (7.7)	19 (12.1)	35 (11.3)	45 (11.3)			
Unknown (%)	2 (2.2)	3 (1.9)	7 (2.3)	11 (2.7)			
Ethnicity							
Non-hispanic (%)	76 (83.5)	131 (83.4)	264 (84.9)	351 (86.5)	0.19	0.66	0.34
Hispanic (%)	15 (16.5)	22 (14)	44 (14.1)	47 (11.6)			
Unknown (%)	0 (0)	4 (2.5)	3 (1)	8 (2)			
Insurance Status							
Uninsured (%)	4 (4.4)	1 (0.6)	6 (1.9)	9 (2.2)	<0.01*	0.07	<0.0001*
Medicaid (%)	21 (23.1)	30 (19.1)	78 (25.1)	46 (11.3)			
Medicare (%)	24 (26.4)	36 (22.9)	75 (24.1)	99 (24.4)			
Private (%)	42 (46.2)	90 (57.3)	152 (48.9)	252 (62.1)			
Initial BMI (SD)	37.5 (9)	35.5 (8.2)	36.5 (8.4)	35 (7.7)	0.01*	0.44	0.01*
NAFLD Outcome							
% Weight Change	-5.0 (12.0)	-2.9 (7.7)	-4.1 (10.7)	-2.3 (8.7)	0.12	0.55	0.06
HbA1c Change	-0.4 (1)	-0.1 (1.1)	-0.2 (1)	-0.3 (1.2)	0.52	0.39	0.6
Total Cholesterol Change	-4.7 (33.4)	-7.4 (37.9)	-5.9 (41.4)	-2.9 (33.1)	0.75	0.36	0.47
INR Change	-0.1 (0.4)	0 (0.2)	0.1 (0.3)	0.1 (0.6)	0.15	0.3	0.85
Fibroscan Stiffness % Change	38.8 (48.2)	4.7 (24.5)	16.4 (93.2)	21 (61.1)	0.54	0.28	0.9
Fibrosis-4 Score % Change	-0.2 (40.9)	13.6 (68)	13.7 (177.8)	5.6 (48.3)	0.33	0.26	0.49
NAFLD Fibrosis Score % Change	3.7 (266.9)	36.7 (556.9)	-97.6 (942.1)	-186 (1731.3)	0.21	0.17	0.59

Distribution of Median Income by Psychiatric Disorder



MEDICATION PRESCRIPTION RATES BY CLASS AND ASSOCIATED WEIGHT CHANGE PATTERNS



DISCUSSION

The Yale Fatty Liver Disease Program, a specialty liver clinic with focus on weight management, comprised 57.9% patients with NAFLD and a comorbid psychiatric disorder.

Compared to those with without mood or anxiety-related disorders (MA-), patients with such disorders (M+, A+, MA+) had higher prevalence of weight-modifying psychiatric medication use, but had:

- **Similar outcomes in non-invasive liver fibrosis measures**
- **Similar weight loss outcomes**

Patients with mood disorders (M+) or with both mood & anxiety disorders (MA+) had significantly different median income quartile distributions compared to patients without mood or anxiety-related disorders.

Specialty weight loss management supports standard liver care regardless of the presence of these comorbid psychiatric disorders.