

Disease burden of MASH/MASLD among people with obesity in China, Japan, and EU5

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Background

Obesity and its related complications, including fatty liver disease (FLD), metabolic dysfunction-associated steatohepatitis (MASH), and the recently defined metabolic dysfunction-associated steatotic liver disease (MASLD), represent growing global public health concerns.

Objective

This study aims to assess the burden of FLD in China, Japan and the EU5 (France, Germany, Italy, Spain, and the United Kingdom).

Methods

Study Design and study population:

- This cross-sectional, web-based survey study used existing data from the National Health and Wellness Survey (NHWS) conducted in 2025 China (n=20,001), 2024 Japan (n=30,001), and the 2024 5EU (France, Germany, Italy, Spain, United Kingdom) (n=62,022) among adults aged ≥18 years. The NHWS has a demographically representative sample, mirroring age and sex distribution of adults in each country; in China NHWS is representative of the urban population.
- Patients diagnosed with MASH/MASLD, those at risk, and those never experienced MASH/MASLD and not at risk were selected.

Study Population:

China 2025			EU5 2024			Japan 2024		
Dx with MASH/MAFLD	Told to be at risk for MAFLD	Without MASH/MAFLD (never experienced and not at risk)	Dx with MASH/MAFLD	Told to be at risk for MAFLD	Without MASH/MAFLD (never experienced and not at risk)	Dx with MASH/MAFLD	Told to be at risk for MAFLD	Without MASH/MAFLD (never experienced and not at risk)
401	928	18435	1331	2397	56897	137	440	29243

Measures :

- Patient Health Questionnaire (PHQ-9)¹ : score 0 - <10 = none to mild depression and score ≥10 = moderate to severe depression.
- General Anxiety Disorder-7 (GAD-7)² : score 0 - <10 = no GAD and score ≥10 = moderate to severe GAD.
- Work Productivity and Activity Impairment (WPAI)³ : higher scores indicate greater impairment.

Data analysis:

- Socio-demographic characteristics, work productivity, and healthcare resource use (HCRU) were descriptively compared across patient groups and regions.

Results

- Patients at Risk in EU5 and Japan are the youngest, have higher education and higher employment levels compared to Diagnosed (MASH/MAFLD) and Without groups. In contrast, in China, patients at risk are older, have lower education and lower employment levels compared to the Diagnosed and Without groups (Table 1).
- BMI is highest in MASH/MAFLD, intermediate in At Risk, and lowest in Without; physical activity follows the opposite trend except in Japan (Table 1).
- MASH/MAFLD patients show the highest CCI scores (Table 1).

Table 1: Characteristics of Fatty liver/ MASH/MASLD

	CHINA 2025			EU5 2024			JAPAN 2024		
	Dx with MASH/ MASLD	Told to be at risk for MAFLD	Without MASH/ MAFLD (never experienced and not at risk)	Dx with MASH/ MAFLD	Told to be at risk for MAFLD	Without MASH/ MAFLD (never experienced and not at risk)	Dx with MASH/ MASLD	Told to be at risk for MAFLD	Without MASH/ MAFLD (never experienced and not at risk)
Total Population	401	928	18435	1331	2397	56897	137	440	29243
Mean Age (SD), years	48.62 (14.31)	50.73 (14.89)	46.39 (15.55)	55.4 (14.40)	46.91 (16.34)	50.11 (16.92)	54.41 (16.31)	52.5 (17.00)	53.02 (17.20)
Education									
University degree	57.36%	47.95%	56.54%	36.51%	43.47%	45.17%	48.91%	52.50%	47.99%
Not/decline to answer	42.64%	52.05%	43.46%	63.49%	56.53%	54.83%	51.09%	47.50%	52.01%
Employment status									
Current employed (FT/PT/SE)	68.58%	60.45%	68.59%	51.92%	66.12%	59.72%	56.20%	62.95%	57.81%
Not employed	31.42%	39.55%	31.41%	48.08%	33.88%	40.28%	43.80%	37.05%	42.19%
Mean Body Mass Index (SD)	26.64 (7.71)	25.46 (7.11)	24.2 (7.18)	30.28 (6.87)	28.62 (9.31)	25.89 (6.2)	25.14 (4.72)	25.17 (5.85)	22.18 (4.32)
Mean number of days exercised (SD)	5.2 (7.09)	6.64 (8.19)	6.09 (8.06)	7.2 (8.65)	8.11 (8.80)	8.46 (9.07)	6.73 (9.33)	5.62 (8.39)	5.62 (9.14)
Mean CCI score (SD)	0.87 (2.5)	0.54 (0.96)	0.19 (0.53)	1.56 (2.45)	0.88 (1.53)	0.42 (0.94)	2.19 (6.35)	0.56 (1.09)	0.27 (0.67)

FT: Full time, PT: part time, SD: standard deviation, SE: self-employed

Figure 1: Proportions of Patients with Moderate-to-Severe Depression (PHQ-9 ≥10) Among Diagnosed, At Risk, and without diagnosis. Patients diagnosed with MASH/MASLD and those at risk reported higher levels of moderate-to-severe depression (PHQ-9 ≥10) (China: 26.18-29.96% vs. 20.93%; EU5: 36.51-50.81% vs. 20.67%; Japan: 32.12-29.32% vs. 14.75%)

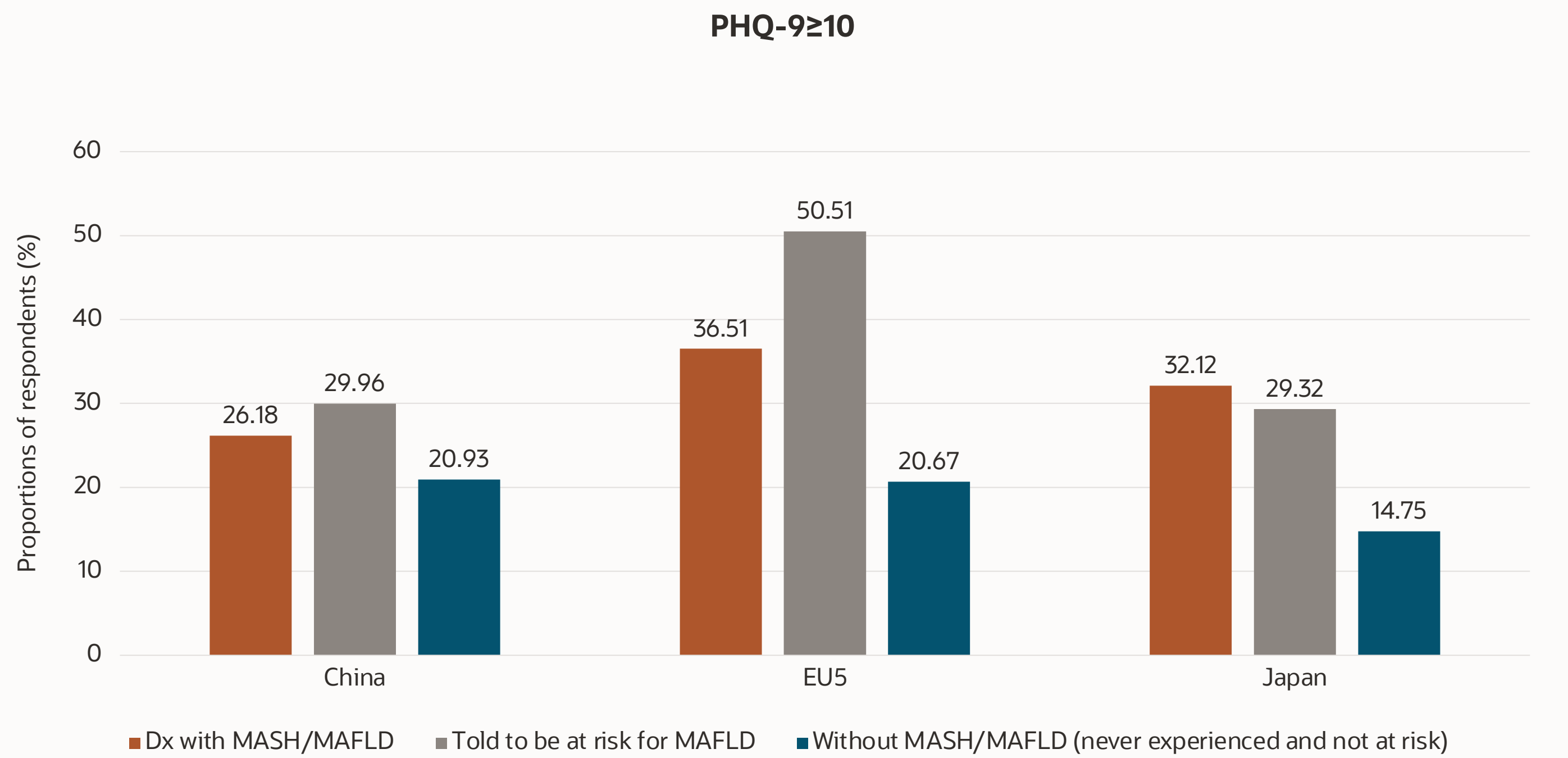


Figure2: Proportion of Patients with Moderate-to-Severe Anxiety (GAD-7 ≥10) in Diagnosed, At Risk, and without diagnosis. Patients diagnosed with MASH/MASLD and those at risk reported higher levels of anxiety (GAD-7 ≥10) (China: 15.21-17.56% vs. 9.81%; 5EU: 25.39-39.72% vs. 13.84%; Japan: 21.17-23.64% vs. 10.13%)

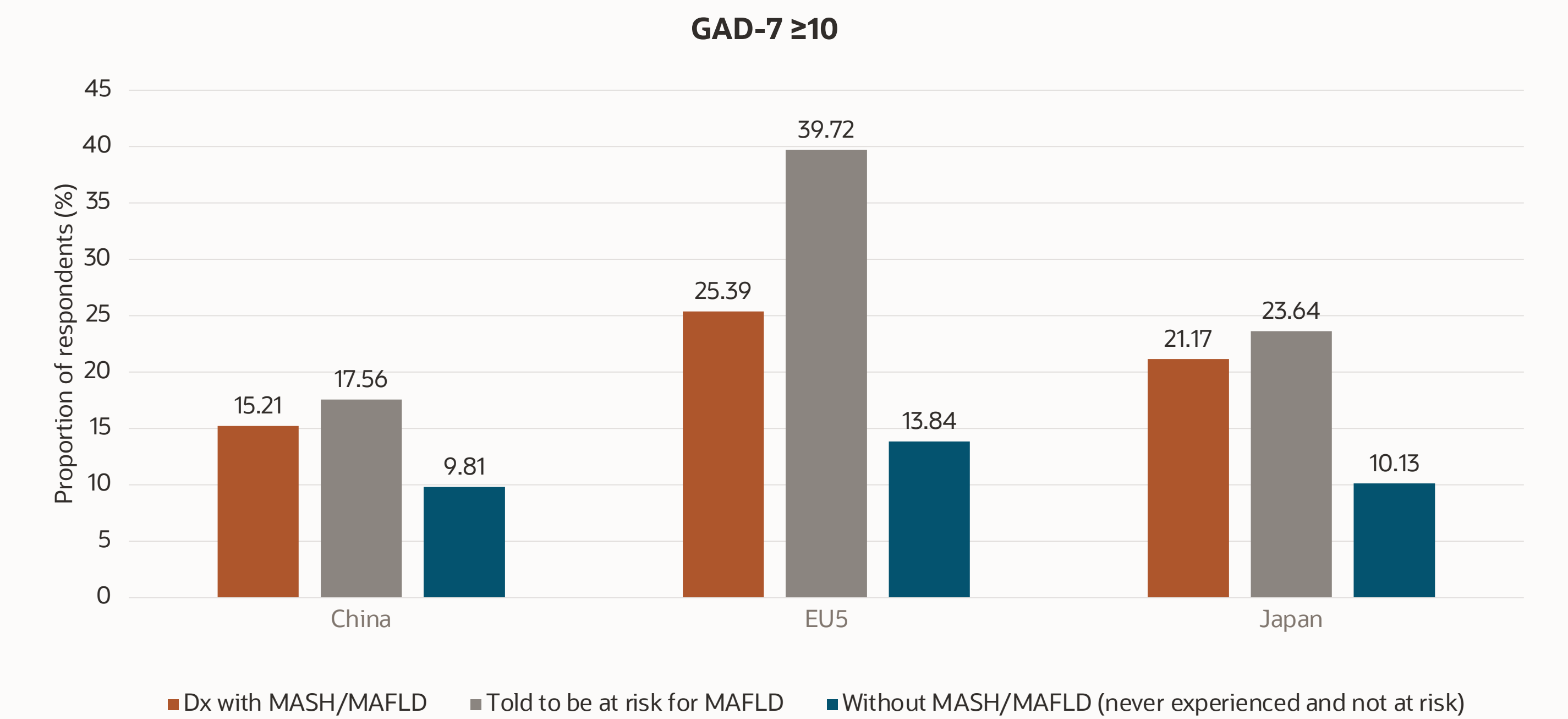
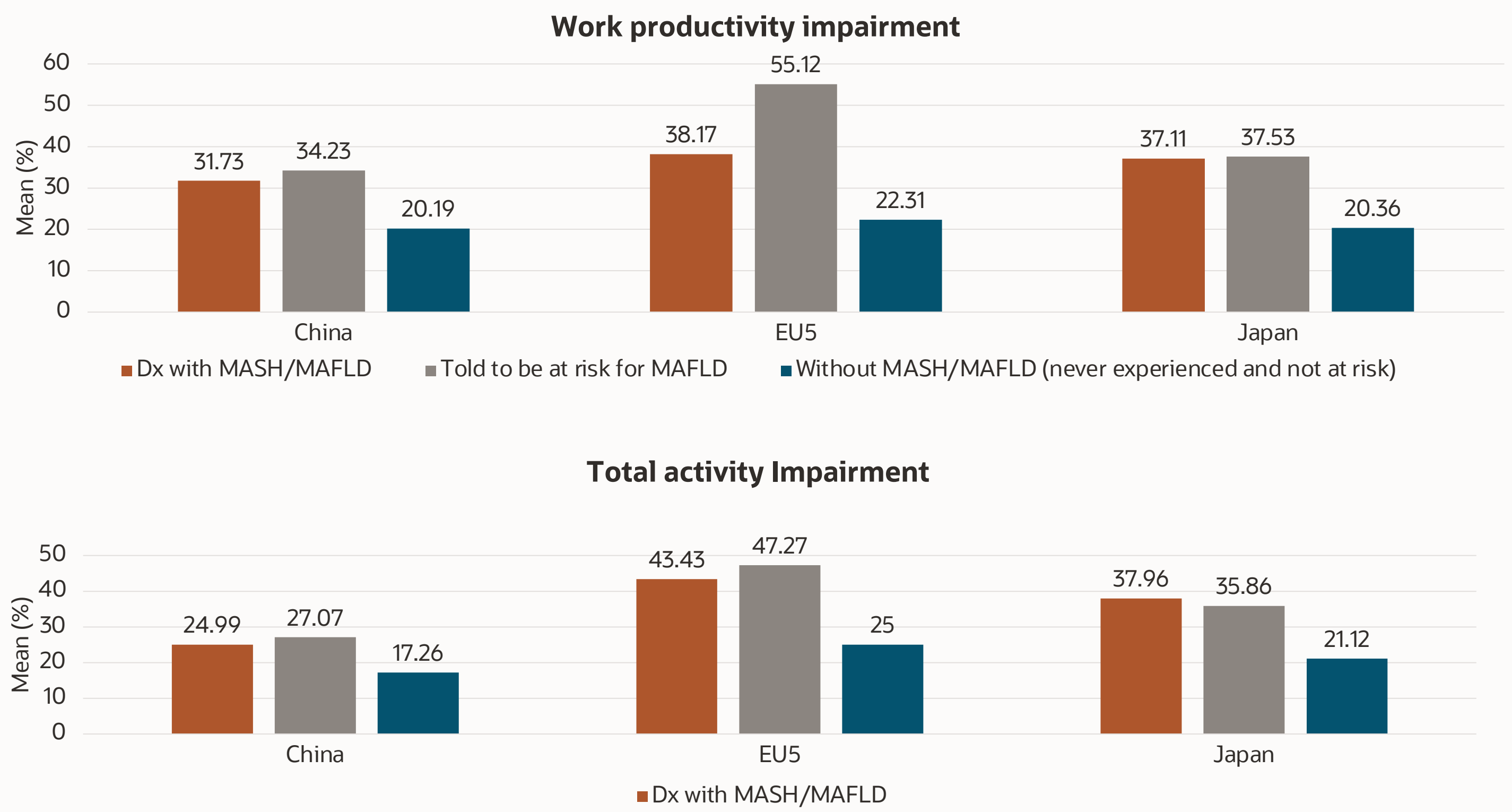


Figure 3: Work and Activity Impairment in Patients with MASH/MASLD, those at Risk and without diagnosis. Patients diagnosed with MASH/MASLD and those at risk reported higher levels of total work productivity impairment (China: 31.73-34.23% vs. 20.19%; EU5: 38.17-55.12% vs. 22.31%; Japan: 37.11-37.53% vs. 20.36%), and total activity impairment (China: 24.99-27.07% vs. 17.26%; EU5: 43.43-47.27% vs. 25.00%; Japan: 37.96-35.86% vs. 21.12%) than those never experienced and not at risk.



Patients with MASH/MASLD had more GP visits, hospitalizations, and ER visits in the past six months than those never experienced and not at risk. Higher HCRU was observed in the EU5, followed by Japan and China. Results are not charted in the poster.



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Conclusion

Patients diagnosed with MASH/MASLD present a significant burden on quality of life, reduced work productivity, and increased healthcare resource utilization. This highlights the need for targeted and comprehensive disease management of MASH/MASLD globally.

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