

Supplementary Table SI. Baseline characteristics of participants (n = 7,705) by sedentary time quartiles (hours/day), NHANES 2017–2020

Characters	Total (n=7705)	Quartiles 1 (< 3) (n=1446)	Quartiles 2 (3-5) (n=2099)	Quartiles 3 (5-8) (n=2019)	Quartiles 4 (≥8) (n=2141)	<i>p-Value</i>
Age(years)	47.17 ± 17.62	44.44 ± 16.57	48.02 ± 17.60	48.57 ± 18.66	46.63 ± 17.06	<0.001
18 ~ 39	38.17(36.52-39.85)	43.29(39.39-47.28)	36.64(33.64-39.75)	35.76(32.69-38.95)	38.96(35.80-42.21)	< 0.001
40 ~ 59	33.65(31.99-35.34)	35.54(31.86-39.39)	32.73(29.60-36.03)	31.69(28.57-34.99)	35.10(31.98-38.35)	
60 ~ 80	28.19(26.73-29.69)	21.17(18.43-24.20)	30.63(27.76-33.65)	32.55(29.61-35.64)	25.94(23.33-28.74)	
Gender						0.139
Men	49.70(47.99-51.42)	47.13(43.21-51.08)	51.26(48.00-54.51)	50.18(46.87-53.48)	49.26(46.00-52.53)	< 0.001
Women	50.30(48.58-52.01)	52.87(48.92-56.80)	48.74(45.49-52.00)	49.82(46.52-53.13)	50.74(47.47-54.00)	
Race/ethnicity						
Hispanic	16.42(15.50-17.39)	31.30(28.27-34.51)	18.23(16.41-20.19)	13.48(11.92-15.21)	10.20(8.86-11.72)	< 0.001
Non-Hispanic White	62.42(60.96-63.86)	46.46(42.42-50.56)	61.29(58.47-64.04)	64.62(61.87-67.27)	69.21(66.72-71.59)	
Non-Hispanic Black	11.17(10.55-11.82)	11.89(10.39-13.56)	11.69(10.47-13.03)	11.85(10.62-13.19)	9.84(8.82-10.97)	
Non-Hispanic Asian	5.89(5.46-6.35)	6.25(5.23-7.45)	5.15(4.42-5.99)	6.31(5.45-7.31)	5.99(5.22-6.85)	
Other races [†]	4.10(3.54-4.74)	4.10(2.85-5.86)	3.64(2.80-4.74)	3.75(2.73-5.13)	4.76(3.71-6.09)	
Education						< 0.001
More than high school	60.79(59.13-62.42)	45.84(41.92-49.81)	56.07(52.83-59.25)	60.35(57.12-63.48)	72.22(69.32-74.95)	< 0.001
High school or equivalent	25.81(24.30-27.39)	31.31(27.58-35.31)	30.37(27.32-33.59)	25.96(23.13-29.01)	19.29(16.78-22.06)	
Less than high school	10.36(9.62-11.16)	20.65(18.29-23.23)	10.84(9.49-12.35)	9.30(7.83-11.00)	5.91(4.88-7.15)	
Not recorded	3.04(2.64-3.49)	2.20(1.56-3.09)	2.73(2.07-3.58)	4.40(3.43-5.63)	2.58(1.99-3.34)	
Poverty-income ratio						< 0.001
< 1.3	16.84(15.82-17.91)	25.98(23.11-29.08)	18.80(16.73-21.06)	15.22(13.47-17.15)	12.17(10.54-14.00)	< 0.001
1.3-1.8	7.96(7.29-8.68)	10.54(8.70-12.72)	8.24(6.95-9.74)	7.98(6.75-9.39)	6.48(5.45-7.69)	
> 1.8	64.36(62.85-65.85)	48.64(44.69-52.61)	61.68(58.67-64.60)	66.50(63.63-69.24)	72.38(69.74-74.88)	
Not recorded	10.84(9.91-11.84)	14.84(12.61-17.39)	11.29(9.52-13.33)	10.32(8.58-12.36)	8.97(7.41-10.83)	
BMI	29.40 ± 6.98	27.97 ± 6.16	28.87 ± 6.59	29.59 ± 7.10	30.38 ± 7.39	< 0.001
< 18.5	1.48(1.12-1.97)	1.58(0.86-2.88)	1.89(1.13-3.14)	1.47(0.96-2.25)	1.12(0.55-2.25)	< 0.001
18.5-25	26.09(24.58-27.65)	34.34(30.51-38.39)	27.59(24.72-30.66)	23.56(20.88-26.47)	22.95(20.28-25.87)	
25-30	32.01(30.44-33.63)	32.43(28.97-36.09)	33.62(30.62-36.75)	34.36(31.22-37.64)	28.56(25.74-31.55)	
≥30	39.86(38.19-41.55)	30.98(27.59-34.58)	36.28(33.23-39.44)	39.88(36.71-43.13)	47.06(43.81-50.33)	
Not recorded	0.56(0.42-0.76)	0.67(0.35-1.28)	0.62(0.33-1.17)	0.74(0.43-1.25)	0.32(0.18-0.56)	
WAIST	99.64 ± 16.54	95.28 ± 14.49	98.70 ± 15.90	100.11 ± 16.92	102.12 ± 17.17	<0.001
Physical activity level						<0.001
Inactive	47.04(45.33-48.75)	40.77(37.06-44.59)	32.55(29.71-35.53)	45.32(42.07-48.61)	63.46(60.25-66.55)	< 0.001
Less active	8.43(7.52-9.44)	4.08(3.15-5.26)	8.38(6.69-10.45)	9.62(7.88-11.70)	9.59(7.81-11.72)	
Active	44.38(42.67-46.10)	55.06(51.19-58.86)	58.72(55.54-61.83)	44.97(41.68-48.30)	26.90(24.09-29.90)	
Not recorded	0.15(0.09-0.25)	0.10(0.03-0.32)	0.34(0.17-0.70)	0.09(0.03-0.28)	0.05(0.01-0.22)	
Daily alcohol drinking status						< 0.001
Non-drinkers	7.37(6.63-8.20)	9.33(7.60-11.40)	7.70(6.21-9.50)	6.85(5.52-8.46)	6.60(5.34-8.14)	< 0.001
Moderate-drinkers	33.34(31.70-35.03)	27.76(24.09-31.76)	32.80(29.81-35.94)	34.51(31.33-37.84)	35.51(32.39-38.75)	
Heavy-drinkers	23.67(22.21-25.20)	23.53(20.28-27.12)	33.62(20.35-26.05)	39.88(20.99-26.72)	24.18(21.45-27.12)	
Binge-drinkers	20.40(19.04-21.84)	21.40(18.45-24.68)	21.84(19.12-24.83)	18.92(16.52-21.57)	19.95(17.44-22.72)	
Not recorded	15.21(14.15-16.33)	17.98(15.46-20.80)	14.58(12.79-16.57)	15.99(13.91-18.32)	13.76(11.82-15.98)	
History of diabetes						0.062
Yes	14.08(13.02-15.22)	11.71(9.80-13.92)	14.11(12.07-16.42)	15.07(12.98-17.43)	14.40(12.43-16.62)	

Characters	Total (n=7705)	Quartiles 1 (< 3) (n=1446)	Quartiles 2 (3-5) (n=2099)	Quartiles 3 (5-8) (n=2019)	Quartiles 4 (≥8) (n=2141)	<i>p-Value</i>
History of Hypertension						0.027
Yes	54.25(52.52-55.97)	50.22(46.30-54.15)	55.01(51.73-58.24)	56.23(52.88-59.53)	53.93(50.62-57.20)	
Having HBV Infection						0.560
Yes	1.06(0.79-1.41)	0.99(0.50-1.95)	1.15(0.72-1.83)	1.25(0.78-2.00)	0.86(0.42-1.75)	
Having HCV Infection						0.045
Yes	1.91(1.50-2.43)	2.44(1.49-3.95)	2.37(1.53-3.67)	1.34(0.85-2.10)	1.73(1.04-2.85)	
Laboratory parameters						
Smoking(serum cotinine levels,ng/ml)						< 0.001
< 0.015	36.35(34.68-38.06)	29.99(26.58-33.64)	34.90(31.81-38.13)	36.06(32.90-39.35)	40.84(37.59-44.17)	
0.015-3	36.01(34.42-37.64)	35.36(31.80-39.08)	35.38(32.41-38.47)	38.28(35.18-41.47)	35.00(32.00-38.13)	
≥3	23.04(21.63-24.52)	31.02(27.28-35.03)	25.20(22.42-28.20)	20.31(17.70-23.19)	19.67(17.37-22.19)	
Not recorded	4.59(3.96-5.33)	3.63(2.59-5.06)	4.52(3.37-6.05)	5.36(4.05-7.04)	4.49(3.40-5.92)	
ALT(U/L)	22.96 ± 17.59	22.64 ± 19.43	23.33 ± 20.84	22.47 ± 14.54	23.19 ± 15.92	0.351
AST(U/L)	21.93 ± 12.70	21.76 ± 13.36	22.41 ± 15.46	21.70 ± 10.26	21.81 ± 11.61	0.261
ALB(g/L)	41.19 ± 3.16	41.20 ± 3.12	41.20 ± 3.18	41.10 ± 3.07	41.24 ± 3.23	0.485
ALP(U/L)	75.07 ± 23.65	74.85 ± 25.99	75.59 ± 23.30	74.95 ± 23.41	74.86 ± 22.95	0.724
GGT(U/L)	29.14 ± 36.51	29.11 ± 45.74	28.83 ± 35.32	29.53 ± 35.46	29.09 ± 33.18	0.944
TB(umol/L)	8.13 ± 4.92	7.84 ± 4.73	8.33 ± 4.88	8.22 ± 4.83	8.02 ± 5.10	0.024
TC(mmol/L)	4.84 ± 1.02	4.79 ± 0.98	4.88 ± 1.04	4.81 ± 1.04	4.84 ± 1.00	0.062
TG(mmol/L)						0.030
< 1.7	38.91(37.24-40.61)	41.46(37.59-45.42)	39.35(36.16-42.62)	38.18(35.01-41.45)	37.93(34.80-41.17)	
1-7-2.3	5.18(4.44-6.04)	3.66(2.53-5.26)	4.95(3.66-6.65)	6.07(4.51-8.12)	5.38(4.09-7.05)	
2.3-5.6	3.79(3.20-4.49)	3.02(1.91-4.73)	4.38(3.19-5.97)	2.95(2.06-4.21)	4.37(3.27-5.83)	
≥5.6	0.30(0.17-0.53)	0.28(0.05-1.43)	0.36(0.12-1.04)	0.34(0.12-0.97)	0.22(0.07-0.67)	
Not recorded	51.82(50.10-53.54)	51.59(47.65-55.51)	50.98(47.71-54.23)	52.46(49.14-55.76)	52.10(48.83-55.35)	
WBC(×10 ⁹ /L)	7.25 ± 2.29	7.16 ± 2.05	7.16 ± 2.01	7.26 ± 2.10	7.35 ± 2.73	0.028
PLT(×10 ⁹ /L)	246.83 ± 61.40	247.88 ± 57.07	244.71 ± 60.23	245.25 ± 60.57	249.37 ± 64.83	0.040
CRP(mg/L)	3.65 ± 7.10	3.39 ± 6.76	3.30 ± 5.34	4.00 ± 9.60	3.79 ± 6.02	0.007
Transient Elastography						
Median stiffness(kPa)	5.70 ± 4.40	5.38 ± 3.11	5.78 ± 4.46	5.67 ± 4.32	5.83 ± 4.89	0.026
Controlled attenuation parameter(dB/m)	262.70 ± 62.62	250.08 ± 60.26	263.34 ± 61.85	262.89 ± 61.28	268.08 ± 64.57	<0.001
MAFLD						< 0.001
Yes	47.22(45.51-48.93)	38.20(34.62-41.92)	47.63(44.39-50.90)	46.40(43.14-49.70)	51.86(48.59-55.12)	
Liver fibrosis						0.195
Yes	22.33(20.96-23.76)	20.57(17.63-23.86)	21.88(19.31-24.68)	22.24(19.64-25.08)	23.62(21.07-26.37)	
Liver cirrhosis						0.156
Yes	2.98(2.45-3.62)	2.22(1.21-4.05)	3.22(2.15-4.79)	2.65(1.81-3.86)	3.43(2.53-4.64)	

Values are weighted mean ± SD or weighted % (95% confidence interval). P-values are weighted.

†Other races include American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, and multiracial persons.

BMI, body mass index; HBV, hepatitis B virus; HCV, hepatitis C virus; ALT, alanine aminotransferase; AST, aspartate aminotransferase; ALB, albumin; ALP, alkaline Phosphatase; GGT, gamma glutamyl transferase; TB, total bilirubin; TC, total cholesterol; TG, triglyceride; WBC, white blood cell count; PLT, platelet count; CRP, C reactive protein; MAFLD, metabolic dysfunction-associated fatty liver disease; NHANES, National Health and Nutrition

Supplementary Table SII. General characteristics of participants (n = 7,705) stratified by MAFLD status, NHANES 2017–2020

Characters	Total (n=7705)	MAFLD (no) (n=4037)	MAFLD (yes) (n=3668)	<i>p-Value</i>
Age(years)	47.17 ± 17.62	44.11 ± 18.05	50.59 ± 16.46	< 0.001
18 ~ 39	38.17(36.52-39.85)	46.37(43.99-48.77)	29.00(26.84-31.25)	
40 ~ 59	33.65(31.99-35.34)	29.41(27.19-31.75)	38.38(35.96-40.85)	< 0.001
60 ~ 80	28.19(26.73-29.69)	24.21(22.33-26.20)	32.63(30.41-34.92)	
Gender				< 0.001
Men	49.70(47.99-51.42)	44.68(42.30-47.09)	55.32(52.88-57.74)	
Women	50.30(48.58-52.01)	55.32(52.91-57.71)	44.68(42.26-47.13)	
Race/ethnicity				< 0.001
Hispanic	16.42(15.50-17.39)	14.49(13.30-15.78)	18.58(17.18-20.06)	
Non-Hispanic White	62.42(60.96-63.86)	62.22(60.19-64.21)	62.65(60.54-64.71)	
Non-Hispanic Black	11.17(10.55-11.82)	13.11(12.17-14.12)	9.00(8.23-9.84)	
Non-Hispanic Asian	5.89(5.46-6.35)	6.43(5.82-7.11)	5.28(4.70-5.93)	
Other races [†]	4.10(3.54-4.74)	3.74(3.06-4.57)	4.50(3.65-5.54)	
Education				< 0.001
More than high school	60.79(59.13-62.42)	62.36(60.09-64.57)	59.03(56.60-61.41)	
High school or equivalent	25.81(24.30-27.39)	23.62(21.62-25.73)	28.27(26.00-30.65)	
Less than high school	10.36(9.62-11.16)	9.42(8.46-10.48)	11.42(10.30-12.64)	
Not recorded	3.04(2.64-3.49)	4.61(3.91-5.41)	1.29(0.99-1.67)	
Poverty-income ratio				0.958
< 1.3	16.84(15.82-17.91)	16.68(15.33-18.13)	17.02(15.50-18.65)	
1.3-1.8	7.96(7.29-8.68)	8.05(7.11-9.09)	7.86(6.95-8.88)	
> 1.8	64.36(62.85-65.85)	64.52(62.43-66.57)	64.18(61.98-66.33)	
Not recorded	10.84(9.91-11.84)	10.75(9.49-12.14)	10.94(9.61-12.43)	
BMI group				< 0.001
< 18.5	1.48(1.12-1.97)	2.79(2.10-3.70)	0.02(0.00-0.17)	
18.5-25	26.09(24.58-27.65)	45.13(42.75-47.54)	4.79(3.93-5.84)	
25-30	32.01(30.44-33.63)	33.26(31.05-35.55)	30.62(28.41-32.92)	
≥30	39.86(38.19-41.55)	18.09(16.38-19.94)	64.19(61.82-66.49)	
Not recorded	0.56(0.42-0.76)	0.73(0.49-1.08)	0.38(0.25-0.58)	
Physical activity level				0.066
Inactive	47.04(45.33-48.75)	47.31(44.94-49.70)	46.73(44.28-49.20)	
Less active	8.43(7.52-9.44)	7.67(6.52-9.00)	9.29(7.92-10.88)	
Active	44.38(42.67-46.10)	44.84(42.45-47.26)	43.86(41.44-46.32)	
Not recorded	0.15(0.09-0.25)	0.18(0.09-0.35)	0.11(0.05-0.25)	
Daily alcohol drinking status				< 0.001
Non-drinkers	7.37(6.63-8.20)	7.60(6.56-8.78)	7.13(6.09-8.32)	
Moderate-drinkers	33.34(31.70-35.03)	33.73(31.41-36.13)	32.91(30.61-35.30)	
Heavy-drinkers	23.67(22.21-25.20)	26.93(24.80-29.17)	20.03(18.12-22.09)	
Binge-drinkers	20.40(19.04-21.84)	17.05(15.39-18.85)	24.15(22.02-26.43)	
Not recorded	15.21(14.15-16.33)	14.70(13.30-16.23)	15.77(14.21-17.47)	

Characters	Total (n=7705)	MAFLD (no) (n=4037)	MAFLD (yes) (n=3668)	<i>p</i> -Value
History of diabetes				< 0.001
Yes	14.08(13.02-15.22)	5.36(4.57-6.28)	23.84(21.87-25.92)	
History of Hypertension				< 0.001
Yes	54.25(52.52-55.97)	45.16(42.81-47.53)	64.42(61.96-66.80)	
Having HBV Infection				0.835
Yes	1.06(0.79-1.41)	1.08(0.74-1.58)	1.03(0.66-1.61)	
Having HCV Infection				0.010
Yes	1.91(1.50-2.43)	2.29(1.72-3.04)	1.48(0.96-2.28)	
Laboratory parameters				
Smoking(serum cotinine levels,ng/ml)				< 0.001
< 0.015	36.35(34.68-38.06)	34.23(31.94-36.60)	38.72(36.29-41.20)	
0.015-3	36.01(34.42-37.64)	35.26(33.05-37.52)	36.86(34.56-39.22)	
≥3	23.04(21.63-24.52)	25.11(23.08-27.25)	20.73(18.82-22.78)	
Not recorded	4.59(3.96-5.33)	5.41(4.43-6.59)	3.69(2.96-4.59)	
ALT(U/L)	22.96 ± 17.59	19.47 ± 16.16	26.85 ± 18.29	< 0.001
AST(U/L)	21.93 ± 12.70	20.95 ± 12.59	23.04 ± 12.74	< 0.001
ALB(g/L)	41.19 ± 3.16	41.51 ± 3.16	40.83 ± 3.11	< 0.001
ALP(U/L)	75.07 ± 23.65	71.78 ± 23.70	78.75 ± 23.05	< 0.001
GGT(U/L)	29.14 ± 36.51	23.56 ± 31.36	35.37 ± 40.62	< 0.001
TB(umol/L)	8.13 ± 4.92	8.30 ± 5.25	7.93 ± 4.51	< 0.001
TC(mmol/L)	4.84 ± 1.02	4.75 ± 0.98	4.94 ± 1.06	< 0.001
TG(mmol/L)				< 0.001
< 1.7	38.91(37.24-40.61)	44.33(41.95-46.74)	32.85(30.57-35.21)	
1-7-2.3	5.18(4.44-6.04)	3.06(2.26-4.14)	7.55(6.32-8.99)	
2.3-5.6	3.79(3.20-4.49)	1.14(0.76-1.69)	6.76(5.61-8.12)	
≥5.6	0.30(0.17-0.53)	0.01(0.00-0.06)	0.61(0.34-1.11)	
Not recorded	51.82(50.10-53.54)	51.45(49.05-53.85)	52.23(49.76-54.68)	
WBC(×10 ⁹ /L)	7.25 ± 2.29	6.94 ± 2.42	7.59 ± 2.09	< 0.001
PLT(×10 ⁹ /L)	246.83 ± 61.40	244.69 ± 60.00	249.21 ± 62.83	0.001
CRP(mg/L)	3.65 ± 7.10	2.93 ± 7.28	4.47 ± 6.80	< 0.001
Sedentary Behaviors(hours/day)	5.90 ± 3.41	5.65 ± 3.29	6.18 ± 3.52	< 0.001
< 3	15.32(14.22-16.49)	17.94(16.25-19.76)	12.40(11.11-13.82)	< 0.001
3-5	26.50(25.03-28.02)	26.30(24.30-28.39)	26.74(24.61-28.98)	
5-8	26.21(24.74-27.73)	26.61(24.54-28.79)	25.76(23.71-27.91)	
≥8	31.97(30.32-33.66)	29.15(26.94-31.48)	35.11(32.71-37.59)	
Transient Elastography				
Median stiffness(kPa)	5.70 ± 4.40	4.95 ± 2.90	6.55 ± 5.50	< 0.001
Controlled attenuation parameter(dB/m)	262.70 ± 62.62	214.68 ± 35.10	316.39 ± 38.30	< 0.001
Liver fibrosis				< 0.001
Yes	22.33(20.96-23.76)	13.31(11.77-15.01)	32.42(30.20-34.72)	
Liver cirrhosis				
Yes	2.98(2.45-3.62)	0.99(0.62-1.58)	5.21(4.21-6.44)	< 0.001

Values are weighted mean ± SD or weighted % (95% confidence interval). P-values are weighted.

†Other races include American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, and multiracial persons.

BMI, body mass index; HBV, hepatitis B virus; HCV, hepatitis C virus; ALT, alanine aminotransferase; AST, aspartate aminotransferase; ALB, albumin; ALP, alkaline Phosphatase; GGT, gamma glutamyl transferase; TB, total bilirubin; TC, total cholesterol; TG, triglyceride; WBC, white blood cell count; PLT, platelet count; CRP, C reactive protein; MAFLD, metabolic dysfunction-associated fatty liver disease; NHANES, National Health and Nutrition Examination Survey.

Supplementary Table SIII. General characteristics of participants (n = 7,705) stratified by gender, NHANES 2017–2020

Characters	Total (n=7705)	Men (n=3837)	Women (n=3868)	<i>p-Value</i>
Age(years)	47.17 ± 17.62	46.10 ± 17.59	48.23 ± 17.58	<0.001
18 ~ 39	38.17(36.52-39.85)	40.44(37.98-42.95)	35.92(33.75-38.15)	
40 ~ 59	33.65(31.99-35.34)	33.04(30.67-35.50)	34.25(31.97-36.60)	< 0.001
60 ~ 80	28.19(26.73-29.69)	26.52(24.48-28.67)	29.83(27.78-31.97)	
Race/ethnicity				0.201
Hispanic	16.42(15.50-17.39)	16.90(15.54-18.35)	15.95(14.73-17.25)	
Non-Hispanic White	62.42(60.96-63.86)	62.68(60.55-64.76)	62.17(60.16-64.14)	
Non-Hispanic Black	11.17(10.55-11.82)	10.43(9.59-11.34)	11.90(11.00-12.86)	
Non-Hispanic Asian	5.89(5.46-6.35)	5.70(5.10-6.37)	6.08(5.48-6.73)	
Other races†	4.10(3.54-4.74)	4.29(3.50-5.25)	3.91(3.17-4.81)	
Education				< 0.001
More than high school	60.79(59.13-62.42)	58.63(56.18-61.04)	62.92(60.68-65.10)	
High school or equivalent	25.81(24.30-27.39)	26.97(24.73-29.34)	24.67(22.66-26.80)	
Less than high school	10.36(9.62-11.16)	10.96(9.87-12.16)	9.77(8.79-10.85)	
Not recorded	3.04(2.64-3.49)	3.44(2.85-4.14)	2.64(2.14-3.27)	
Poverty-income ratio				< 0.001
< 1.3	16.84(15.82-17.91)	15.38(13.99-16.87)	18.29(16.82-19.85)	
1.3-1.8	7.96(7.29-8.68)	7.19(6.33-8.16)	8.72(7.74-9.81)	
> 1.8	64.36(62.85-65.85)	65.94(63.77-68.05)	62.80(60.68-64.88)	
Not recorded	10.84(9.91-11.84)	11.49(10.13-13.00)	10.20(8.97-11.56)	
BMI group				< 0.001
< 18.5	1.48(1.12-1.97)	0.96(0.68-1.36)	2.00(1.36-2.93)	
18.5-25	26.09(24.58-27.65)	23.40(21.32-25.62)	28.74(26.61-30.97)	
25-30	32.01(30.44-33.63)	35.55(33.20-37.97)	28.52(26.44-30.68)	
≥30	39.86(38.19-41.55)	39.39(36.95-41.89)	40.31(38.06-42.60)	
Not recorded	0.56(0.42-0.76)	0.70(0.46-1.06)	0.431(0.29-0.65)	
Physical activity level				< 0.001
Inactive	47.04(45.33-48.75)	40.62(38.19-43.10)	53.38(51.03-55.72)	
Less active	8.43(7.52-9.44)	7.95(6.72-9.38)	8.92(7.63-10.39)	
Active	44.38(42.67-46.10)	51.36(48.85-53.87)	37.48(35.23-39.79)	
Not recorded	0.15(0.09-0.25)	0.07(0.03-0.19)	0.22(0.12-0.41)	
Daily alcohol drinking status				< 0.001
Non-drinkers	7.37(6.63-8.20)	5.88(4.89-7.05)	8.85(7.77-10.07)	

Characters	Total (n=7705)	Men (n=3837)	Women (n=3868)	<i>p-Value</i>
Moderate-drinkers	33.34(31.70-35.03)	38.25(35.78-40.78)	28.50(26.38-30.71)	
Heavy-drinkers	23.67(22.21-25.20)	15.81(14.06-17.73)	31.44(29.23-33.74)	
Binge-drinkers	20.40(19.04-21.84)	27.27(25.10-29.55)	13.62(12.05-15.35)	
Not recorded	15.21(14.15-16.33)	12.80(11.38-14.37)	17.59(16.06-19.23)	
History of diabetes				0.002
Yes	14.08(13.02-15.22)	15.33(13.70-17.12)	12.85(11.51-14.31)	
History of Hypertension				< 0.001
Yes	54.25(52.52-55.97)	57.78(55.23-60.30)	50.76(48.41-53.10)	
Having HBV Infection				0.345
Yes	1.06(0.79-1.41)	1.17(0.77-1.77)	0.95(0.64-1.41)	
Having HCV Infection				< 0.001
Yes	1.91(1.50-2.43)	2.56(1.88-3.47)	1.26(0.86-1.86)	
Laboratory parameters				
Smoking(serum cotinine levels,ng/ml)				< 0.001
< 0.015	36.35(34.68-38.06)	31.59(29.23-34.04)	41.06(38.73-43.43)	
0.015-3	36.01(34.42-37.64)	35.75(33.41-38.16)	36.28(34.12-38.49)	
≥3	23.04(21.63-24.52)	27.94(25.76-30.24)	18.20(16.46-20.08)	
Not recorded	4.59(3.96-5.33)	4.72(3.86-5.77)	4.47(3.58-5.56)	
ALT(U/L)	22.96 ± 17.59	27.15 ± 19.70	18.81 ± 14.04	< 0.001
AST(U/L)	21.93 ± 12.70	23.92 ± 14.33	19.96 ± 10.48	< 0.001
ALB(g/L)	41.19 ± 3.16	42.03 ± 3.09	40.35 ± 3.00	< 0.001
ALP(U/L)	75.07 ± 23.65	74.95 ± 23.41	75.20 ± 23.90	0.642
GGT(U/L)	29.14 ± 36.51	34.65 ± 41.28	23.70 ± 30.11	< 0.001
TB(umol/L)	8.13 ± 4.92	9.37 ± 5.60	6.90 ± 3.75	< 0.001
TC(mmol/L)	4.84 ± 1.02	4.74 ± 1.04	4.93 ± 0.99	< 0.001
TG(mmol/L)				< 0.001
< 1.7	38.91(37.24-40.61)	37.63(35.19-40.13)	40.18(37.90-42.51)	
1.7-2.3	5.18(4.44-6.04)	5.64(4.54-7.00)	4.72(3.80-5.86)	
2.3-5.6	3.79(3.20-4.49)	5.28(4.27-6.51)	2.33(1.75-3.08)	
≥5.6	0.30(0.17-0.53)	0.46(0.25-0.88)	0.13(0.03-0.53)	
Not recorded	51.82(50.10-53.54)	50.99(48.47-53.50)	52.64(50.29-54.98)	
WBC(×10 ⁹ /L)	7.25 ± 2.29	7.20 ± 2.45	7.29 ± 2.12	0.079
PLT(×10 ⁹ /L)	246.83 ± 61.40	232.53 ± 55.54	260.96 ± 63.60	< 0.001
CRP(mg/L)	3.65 ± 7.10	3.19 ± 6.51	4.11 ± 7.60	< 0.001
Sedentary Behaviors(hours/day)	5.90 ± 3.41	5.97 ± 3.45	5.83 ± 3.38	0.071
< 3	15.32(14.22-16.49)	14.53(12.96-16.25)	16.11(14.61-17.73)	
3-5	26.50(25.03-28.02)	27.34(25.23-29.54)	25.68(23.66-27.81)	
5-8	26.21(24.74-27.73)	26.46(24.28-28.76)	25.96(24.02-28.00)	0.139
≥8	31.97(30.32-33.66)	31.68(29.303-4.16)	32.25(30.00-34.58)	
Transient Elastography				
Median stiffness(kPa)	5.70 ± 4.40	6.12 ± 4.89	5.29 ± 3.80	< 0.001
Controlled attenuation parameter(dB/m)	262.70 ± 62.62	272.09 ± 62.68	253.43 ± 61.16	< 0.001
MAFLD				< 0.001

Characters	Total (n=7705)	Men (n=3837)	Women (n=3868)	<i>p</i> -Value
Yes	47.22(45.51-48.93)	52.55(50.03-55.06)	41.95(39.66-44.27)	
Liver fibrosis				< 0.001
Yes	22.33(20.96-23.76)	25.87(23.80-28.04)	18.83(17.08-20.72)	
Liver cirrhosis				< 0.001
Yes	2.98(2.45-3.62)	3.84(3.00-4.91)	2.14(1.57-2.93)	

Values are weighted mean $\pm$ SD or weighted % (95% confidence interval). P-values are weighted.

[†]Other races include American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, and multiracial persons.

BMI, body mass index; HBV, hepatitis B virus; HCV, hepatitis C virus; ALT, alanine aminotransferase; AST, aspartate aminotransferase; ALB, albumin; ALP, alkaline Phosphatase; GGT, gamma glutamyl transferase; TB, total bilirubin; TC, total cholesterol; TG, triglyceride; WBC, white blood cell count; PLT, platelet count; CRP, C reactive protein; MAFLD, metabolic dysfunction-associated fatty liver disease; NHANES, National Health and Nutrition Examination Survey.

Supplementary Table SIV. Subgroup analysis of the associations between sedentary time and MAFLD (n = 7,705), NHANES 2017 – 2020

Full adjustment model OR (95% CI), <i>p</i>				
Quartiles of Sedentary Behaviors(hours/day)	Q1(< 3)	Q2(3-5)	Q3(5-8)	Q4($\geq$ 8)
Stratified by gender				
Men	Reference	1.455 (1.08, 1.959) 0.014	1.702 (1.237, 2.34) 0.001	2.436 (1.753, 3.384) < 0.001
Women	Reference	1.462 (1.072, 1.992) 0.016	1.201 (0.877, 1.646) 0.254	1.516 (1.102, 2.084) 0.010
<i>p</i> for interaction			0.0974	
Stratified by age				
18 ~ 39	Reference	1.600 (1.125, 2.275) 0.009	2.058 (1.431, 2.961) < 0.001	2.143 (1.477, 3.108) < 0.001
40 ~ 59	Reference	1.443 (0.977, 2.13) 0.065	1.260 (0.837, 1.896) 0.268	2.342 (1.569, 3.497) < 0.001
60 ~ 80	Reference	1.386 (0.932, 2.059) 0.107	1.110 (0.746, 1.652) 0.607	1.526 (1.006, 2.315) 0.047
Stratified by race				
Hispanic	Reference	1.365 (1.001, 1.861) 0.049	1.579 (1.112, 2.242) 0.011	1.478 (1.002, 2.179) 0.049
Non-Hispanic White	Reference	1.666 (1.145, 2.425) 0.008	1.538 (1.054, 2.243) 0.026	2.252 (1.549, 3.274) < 0.001
Non-Hispanic Black	Reference	1.870 (1.317, 2.653) < 0.001	1.763 (1.243, 2.501) 0.001	1.704 (1.200, 2.419) 0.003
Non-Hispanic Asian	Reference	0.774 (0.475, 1.261) 0.304	1.094 (0.670, 1.785) 0.719	1.427 (0.875, 2.328) 0.154
Other races [†]	Reference	0.487 (0.180, 1.319) 0.157	0.666 (0.239, 1.856) 0.437	1.253 (0.436, 3.601) 0.675
Stratified by Poverty-income ratio				
< 1.3	Reference	1.487 (1.039, 2.129) 0.030	1.334 (0.903, 1.971) 0.147	1.764 (1.151, 2.703) 0.009
1.3-1.8	Reference	1.864 (1.062, 3.273) 0.030	2.571 (1.425, 4.639) 0.002	2.029 (1.138, 3.619) 0.017
> 1.8	Reference	1.562 (1.119, 2.178) 0.009	1.495 (1.073, 2.083) 0.017	2.127 (1.526, 2.966) < 0.001
Stratified by BMI				
< 25	Reference	1.414 (0.763, 2.623) 0.271	1.020 (0.522, 1.992) 0.955	1.150 (0.606, 2.184) 0.669
25-30	Reference	1.333 (0.923, 1.925) 0.126	0.916 (0.627, 1.339) 0.651	1.278 (0.860, 1.900) 0.225
$\geq$ 30	Reference	1.489 (0.975, 2.273) 0.066	1.512 (1.003, 2.278) 0.048	1.692 (1.118, 2.561) 0.013
Stratified by diabetes				
Yes	Reference	2.318 (1.388, 3.870) 0.001	1.227 (0.720, 2.093) 0.452	2.096 (1.223, 3.592) 0.007

		Stratified by Hypertension		
Yes	Reference	1.509 (1.150, 1.980) 0.003	1.506 (1.149, 1.974) 0.003	1.959 (1.495, 2.567) < 0.001
		Stratified by TG		
< 1.7	Reference	1.472 (1.054, 2.056) 0.023	1.365 (0.981, 1.899) 0.065	1.676 (1.204, 2.332) 0.002
1-7-2.3	Reference	1.170 (0.419, 3.272) 0.764	1.172 (0.401, 3.424) 0.772	1.974 (0.705, 5.525) 0.195
2.3-5.6	Reference	7.139 (1.969, 25.877) 0.003	1.794 (0.475, 6.778) 0.389	3.845 (1.094, 13.510) 0.036
≥5.6	Reference	3.030 (0.075, 122.198) 0.557	-	-

Full adjustment model adjusted for:gender; age; race; physical activity level; HBV infection; HCV infection; daily alcohol drinking status; serum cotinine levels; education; poverty income ratio.

p for interaction was calculated using the adjusted Wald test for sedentary time* gender in the fully adjusted model accounting for survey weights, psus, and strata.

[†]Other races include American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, and multiracial persons.

BMI, body mass index; TG, triglyceride; MAFLD, metabolic dysfunction-associated fatty liver disease; NHANES, National Health and Nutrition Examination Survey.