

Supplementary Table S1. Variable assignments

Variable	Valuation
Y Group	No AMS = 0, AMS = 1
X ₁ Sex	Male = 0, Female = 1
X ₂ Age	18–30 = 0, 30–50 = 1, ≥ 50 = 2
X ₃ The altitude of residence	Low altitudes = 0, Medium altitudes = 1
X ₄ Marital status	Single = 0, Married = 1, Divorced, widowed or other = 2
X ₅ Ethnicity	Han ethnic group = 0, Others = 1
X ₆ Educational degree	Junior high school or below = 0, Senior high school or vocational high school = 1, Bachelor degree = 2, Master's degree or over = 3
X ₇ BMI	< 18.5 = 0, 18.5–23.9 = 1, 24.0–27.9 = 2, ≥ 28.0 = 3
X ₈ Hypertension	No = 0, Yes = 1
X ₉ Hyperlipidemia	No = 0, Yes = 1
X ₁₀ Family history of hypertension	No = 0, Yes = 1
X ₁₁ Family history of diabetes	No = 0, Yes = 1
X ₁₂ Family history of hyperlipidemia	No = 0, Yes = 1
X ₁₃ Family history of atherosclerosis	No = 0, Yes = 1
X ₁₄ Family history of stroke	No = 0, Yes = 1
X ₁₅ Number of trips to Xizang	First trip to Xizang = 0, Multiple trips to Xizang = 1,
X ₁₆ Mode of transportation	By airplane = 0, By train = 1, By car = 2, By other non-motorized transport = 3
X ₁₇ The season of entry to Xizang	May to September = 0, October to April = 1
X ₁₈ Taking prophylactic medication	No = 0, Yes = 1
X ₁₉ Contacting a cold in the week before entering Xizang	No = 0, Yes = 1
X ₂₀ Contacting a cold within a week of entering Xizang	No = 0, Yes = 1
X ₂₁ Experiencing anxiety or depression within a week of entering Xizang	No = 0, Yes = 1
X ₂₂ Regular physical activity	No = 0, Yes = 1
X ₂₃ Sedentary behavior	< 3 h = 0, 3–8 h = 1, ≥ 8 h = 2
X ₂₄ Cigarette smoking	No smoking = 0, Current smoking = 1, Quit smoking and no longer smoke = 2
X ₂₅ Passive smoking	No = 0, Yes = 1
X ₂₆ Alcohol consumption	No = 0, Yes = 1
X ₂₇ Emotional state in the six months prior to entering Xizang	Negative emotions such as anxiety and depression = 0, Positive emotions such as cheerfulness and hopefulness = 1, Other emotions = 2

Supplementary Table S2. Demographic characteristics of all study subjects (*N* = 1,064)

Characteristic	Category	<i>n</i> (%)
Sex	Male	496 (46.60)
	Female	568 (53.40)
Age (years)	18–30	329 (30.90)
	30–50	574 (53.90)
	≥ 50	161 (15.10)
The altitude of residence	Low altitudes	627 (58.90)
	Medium altitudes	437 (41.10)
Marital status	Single	334 (31.40)
	Married	703 (66.10)
	Divorced, widowed or other	27 (2.50)
Educational degree	Junior high school or below	22 (2.10)
	Senior high school or vocational high school	48 (4.50)
	Bachelor degree	587 (55.20)
	Master's degree or over	407 (38.30)
BMI (kg/m ²)	< 18.5	88 (8.30)
	18.5–23.9	519 (48.80)
	24.0–27.9	285 (26.80)
	≥ 28.0	172 (16.20)

Supplementary Table S3. Results of a univariate analysis of the occurrence of AMS

Variable	Category	No AMS (%)	AMS (%)	χ^2	<i>P</i> value
Sex	Male	319 (50.20)	177 (41.30)	8.29	0.004
	Female	316 (49.80)	252 (58.70)		
The altitude of residence	Low altitudes	319 (50.20)	308 (71.80)	49.17	< 0.001
	Medium altitudes	316 (49.80)	121 (28.20)		
Educational degree	Junior high school or below	16 (2.50)	6 (1.40)	18.91	< 0.001
	Senior high school or vocational high school	33 (5.20)	15 (3.50)		
	Bachelor degree	376 (59.20)	211 (49.20)		
	Master's degree or over	210 (33.10)	197 (45.90)		
BMI (kg/m ²)	< 18.5	50 (7.90)	38 (8.90)	65.99	< 0.001
	18.5–23.9	353 (55.60)	166 (38.70)		
	24.0–27.9	175 (27.60)	110 (25.60)		
	≥ 28.0	57 (9.00)	115 (26.80)		
Family history of hypertension	No	322 (50.70)	189 (44.10)	4.54	0.033
	Yes	313 (49.30)	240 (55.90)		
Family history of atherosclerosis	No	601 (94.60)	392 (91.40)	4.40	0.036
	Yes	34 (5.40)	37 (8.60)		
Number of trips to Xizang	First trip to Xizang	390 (36.70)	214 (20.10)	18.49	< 0.001
	Multiple trips to Xizang	245 (23.00)	215(20.20)		

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Variable	Category	No AMS (%)	AMS (%)	χ^2	P value
Mode of transportation	By airplane	159 (25.00)	238 (55.50)	102.32	< 0.001
	By train	199 (31.30)	75 (17.50)		
	By car	248 (39.10)	107 (24.90)		
	By other non-motorized transport	29 (4.60)	9 (2.10)		
The season of entry to Xizang	May to September	508 (80.00)	319 (74.40)	4.71	0.030
	October to April	127 (20.00)	110 (25.60)		
Taking prophylactic medication	No	327 (51.50)	295 (68.80)	31.44	< 0.001
	Yes	308 (48.50)	134 (31.20)		
Contacting a cold in the week before entering Xizang	No	621 (97.80)	399 (93.00)	14.81	< 0.001
	Yes	14 (2.20)	30 (7.00)		
Contacting a cold within a week of entering Xizang	No	615 (96.90)	390 (90.90)	17.26	< 0.001
	Yes	20 (3.10)	39 (9.10)		
Experiencing anxiety or depression within a week of entering Xizang	No	603 (95.00)	284 (66.20)	152.71	< 0.001
	Yes	32 (5.00)	145 (33.80)		
Sedentary behavior	< 3 h	125 (19.70)	62 (14.50)	5.08	0.079
	3–8 h	343 (54.00)	241 (56.20)		
	≥ 8 h	167 (26.30)	126 (29.40)		
Cigarette smoking	No smoking	492 (77.50)	298 (69.50)	11.59	0.003
	Current smoking	102 (16.10)	105 (24.50)		
	Quit smoking and no longer smoke	41 (6.50)	26 (6.10)		
Passive smoking	No	363 (57.20)	210 (49.00)	6.95	0.008
	Yes	272 (42.80)	219 (51.00)		
Alcohol consumption	No	358 (56.40)	267 (62.20)	3.63	0.057
	Yes	277 (43.60)	162 (37.80)		
Emotional state in the six months prior to entering Xizang	Negative emotions such as anxiety and depression	144 (22.70)	131 (30.50)	8.33	0.004
	Positive emotions such as cheerfulness and hopefulness	423 (66.60)	262 (61.10)		
	Other emotions	68 (10.70)	36 (8.40)		