



# Burden of disease attributable to high body mass index: an analysis of data from the Global Burden of Disease Study 2021

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## Correction to Figure 4 Caption

In the original paper, the caption for Figure 4A mistakenly labels “DALYs” (Disability-Adjusted Life Years) when it should read “deaths.” This error was due to a typographical oversight. The corrected title is as follows: Figure 4: (A) Age-standardized death rates attributable to high BMI in 2021; (B) Age-standardized DALY rates attributable to high BMI in 2021.

## Correction to Table 1

In the original paper, [Table 1](#) contains misaligned age-standardized death values for causes of death compared to the Global Burden of Disease (GBD) study. This error was caused by a shift in data rows, resulting in incorrect automatic entries where values intended for Age-standardized DALYs (e.g., 0.36) were mistakenly populated in the Age-standardized death column. Consequently, values such as 0.36, 1.36, 2.36, 3.36, and so forth were incorrectly filled into the age-standardized death data. A corrected version of [Table 1](#) is attached for reference, with all values realigned to accurately reflect the original GBD data.

## Impact on Data Interpretation

These corrections ensure accurate representation of the data but do not change the overall conclusions of the paper.

	1990		2021		Relative change in age-standardized death rate, 1990–2021 (95% CI)
	No. death cases (95% UI)	Age-standardized death rates per 100,000 (95% UI)	No. death cases (95% UI)	Age-standardized death rates per 100,000 (95% UI)	
<b>Global</b>	1,459,533 (723,043–2,287,052)	40.90 (19.87–64.16)	3,709,063 (1,847,840–5,658,334)	44.23 (22.01–67.64)	0.08 (0.01–0.15)
<b>Sex</b>					
Female	828,147 (407,103–1,302,480)	41.57 (20.18–65.25)	2,013,089 (979,000–3,076,045)	43.26 (21.08–66.05)	0.04 (–0.03 to 0.12)
Male	631,386 (315,453–988,214)	39.03 (19.35–60.80)	1,695,974 (861,972–2,635,343)	44.90 (23.01–70.17)	0.15 (0.06–0.23)
<b>SDI</b>					
Low SDI	70,040 (42,195–110,220)	32.89 (20.11–51.01)	204,362 (114,078–318,520)	43.22 (24.93–66.40)	0.31 (0.14–0.50)
Low-middle SDI	177,919 (100,108–281,095)	31.91 (18.22–49.61)	671,617 (349,426–1,011,204)	49.59 (26.29–74.99)	0.55 (0.35–0.74)
Middle SDI	306,277 (185,062–452,734)	33.78 (20.37–50.30)	1,126,388 (581,131–1,700,642)	44.80 (23.60–67.57)	0.33 (0.10–0.46)
High-middle SDI	430,095 (194,645–685,431)	48.62 (22.28–77.66)	904,396 (417,515–1,428,690)	46.71 (21.70–73.63)	–0.04 (–0.12 to 0.05)
High SDI	472,370 (199,898–767,235)	43.07 (18.21–69.90)	797,416 (368,146–1,253,107)	35.13 (16.59–54.47)	–0.18 (–0.24 to –0.07)
<b>Causes</b>					
Cardiovascular diseases	863,066 (477,898–1,316,551)	24.43 (13.63–37.3)	1,904,239 (1,072,732–2,864,242)	22.77 (12.87–34.24)	–0.07 (–0.14 to 0.02)
Chronic respiratory diseases	38,041 (16,523–59,933)	1.00 (0.43–1.58)	62,363 (26,317–100,543)	0.74 (0.31–1.19)	–0.26 (–0.35 to –0.14)
Diabetes and kidney diseases	330,122 (170,826–489,762)	9.01 (4.53–13.57)	1,142,121 (602,169–1,666,047)	13.51 (7.14–19.81)	0.50 (0.39–0.64)
Digestive diseases	21,103 (4725–35,436)	0.63 (0.14–1.06)	46,716 (10,268–79,844)	0.58 (0.13–0.98)	–0.09 (–0.19 to 0.12)
Neoplasms	137,353 (57,450–225,297)	3.66 (1.51–6.03)	356,738 (146,116–581,012)	4.18 (1.71–6.8)	0.14 (0.07–0.20)
Neurological disorders	31,577 (–1617 to 142,814)	1.22 (–0.07 to 5.43)	139,439 (–21,838 to 580,290)	1.79 (–0.27 to 7.44)	0.47 (–0.47 to 2.67)
Respiratory infections and tuberculosis	38,272 (8106–107,542)	0.94 (0.20–2.62)	57,447 (12,864–150,517)	0.67 (0.15–1.75)	–0.29 (–0.40 to –0.08)
<b>Regions</b>					
Southeast Asia, East Asia, and Oceania	209,280 (133,212–314,962)	21.31 (13.51–31.76)	843,126 (434,145–1,321,468)	32.18 (16.72–50.06)	0.51 (0.03–0.87)
Central Europe, Eastern Europe, and Central Asia	313,169 (127,541–516,522)	70.50 (28.19–116.6)	482,197 (206,766–766,422)	73.46 (31.57–116.87)	0.04 (–0.06 to 0.18)
High-income	495,925 (211,655–800,301)	41.52 (17.71–67.04)	815,587 (370,336–1,288,209)	33.19 (15.69–51.55)	–0.20 (–0.25 to –0.09)
Latin America and Caribbean	121,529 (62,408–183,615)	58.07 (30.04–87.81)	390,581 (200,873–593,116)	63.83 (32.60–97.11)	0.10 (0.01–0.19)
North Africa and Middle East	139,628 (80,646–204,715)	94.42 (54.85–138.13)	444,512 (248,383–651,458)	111.09 (62.99–165.05)	0.18 (0.05–0.30)
South Asia	91,954 (46,062–155,163)	16.58 (8.74–27.79)	448,678 (214,705–698,248)	31.70 (15.44–49.7)	0.91 (0.56–1.33)
Sub-Saharan Africa	88,048 (53,414–136,421)	45.76 (27.18–70.37)	284,382 (160,256–427,513)	67.34 (38.78–102.13)	0.47 (0.29–0.66)
World Bank Regions	825,830 (405,994–1,298,931)	24.19 (11.59–37.98)	3,701,337 (1,843,736–5,646,169)	44.19 (21.98–67.58)	0.83 (0.72–0.97)
WHO region	1,448,757 (717,769–2,270,841)	40.84 (19.84–64.08)	3,684,012 (1,835,234–5,618,806)	44.25 (22.01–67.65)	0.08 (0.01–0.15)
European Union	300,328 (130,095–482,020)	50.23 (21.68–80.72)	419,910 (198,142–672,566)	37.28 (17.88–59.34)	–0.26 (–0.32 to –0.15)
League of Arab States	93,700 (54,474–138,019)	101.80 (58.54–149.61)	314,703 (177,705–467,749)	130.76 (75.14–195.39)	0.28 (0.11–0.45)
Commonwealth	221,787 (107,464–356,741)	28.87 (14.05–46.35)	741,090 (356,775–1,136,519)	38.31 (18.41–59.14)	0.33 (0.20–0.48)
OECD Countries	608,719 (263,354–978,455)	45.88 (19.90–73.72)	1,077,196 (511,582–1,688,391)	39.26 (19.08–60.51)	–0.14 (–0.20 to –0.02)
G20	1,045,845 (498,668–1,651,416)	38.33 (17.91–60.41)	2,508,139 (1,216,695–3,877,430)	38.98 (18.96–60.30)	0.02 (–0.05 to 0.09)
African Union	151,517 (90,193–228,330)	60.15 (35.72–89.11)	491,144 (275,282–731,417)	86.48 (49.45–129.8)	0.44 (0.26–0.60)
Four World Regions	1,453,713 (720,260–2,278,004)	40.82 (19.84–64.04)	3,698,546 (1,842,234–5,642,121)	44.19 (21.98–67.58)	0.08 (0.01–0.15)
World Bank Income Levels	1,456,672 (721,695–2,282,563)	40.86 (19.86–64.11)	3,704,134 (1,845,217–5,650,715)	44.21 (21.99–67.61)	0.08 (0.01–0.15)
Nordic Region	14,360 (5312–23,981)	37.09 (13.88–61.66)	16,769 (7097–27,654)	25.05 (10.77–41.28)	–0.32 (–0.39 to –0.16)
Organization of Islamic Cooperation	244,516 (137,488–372,008)	52.41 (29.85–78.55)	806,667 (439,001–1,198,877)	71.57 (39.42–107.21)	0.37 (0.24–0.49)
Association of Southeast Asian Nations	53,733 (32,894–83,980)	21.96 (13.48–33.99)	222,760 (118,705–342,708)	35.86 (19.44–55.15)	0.63 (0.37–0.88)
Gulf Cooperation Council	7520 (3992–11,670)	105.29 (56.86–163.13)	35,910 (20,177–51,894)	137.46 (76.71–201.14)	0.31 (0.07–0.63)
Sahel Region	28,578 (16,831–44,670)	48.03 (28.28–74.92)	80,107 (44,088–123,263)	62.89 (34.89–96.41)	0.31 (0.10–0.56)
Health System Grouping Levels	1,456,701 (721,713–2,282,604)	40.86 (19.86–64.11)	3,704,180 (1,845,244–5,650,779)	44.21 (22–67.61)	0.08 (0.01–0.15)

Abbreviations: BMI, high body mass index; CI, confidence interval; SDI, Socio-demographic Index; UI, uncertainty intervals.

**Table 1: Deaths and age-standardized death rates of high BMI in 1990 and 2021 and the temporal trend of age-standardized death rates from 1990 to 2021.**