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Review Article

Global Trends in Adult Obesity Prevalence and Their Comparison with the United States Population

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Abstract

Introduction: Obesity (body mass index [BMI] $\geq 30\ kg/m^2$) and overweight (BMI $\geq 25\ kg/m^2$) are conditions defined by excessive accumulation of body fat. Over recent decades, the prevalence of obesity has increased markedly worldwide, affecting both developed and developing nations. In 2016, more than 1.9 billion adults aged 18 years and older were classified as overweight, with over 650 million living with obesity. Obesity is associated with numerous serious comorbidities and represents a growing public health concern, contributing to escalating disease burden, rising healthcare costs, and substantial losses in productivity. This research aims to conduct a comparative analysis of obesity prevalence in the United States of America relative to other developed and developing countries and territories across the six World Health Organization regions worldwide. Additionally, sex-specific obesity prevalence among adults in the United States was examined.
Methods: A comparative analysis was conducted using obesity prevalence data obtained from the World Health Organization Global Health Observatory Data Repository. Data spanning the period from 2016 to 2022 were analysed to assess adult obesity trends in the United States relative to other developed and developing countries across the six WHO regions.
Results: The six WHO global regions encompass a total of 199 countries and territories. Among these, the United States exhibited an adult obesity prevalence higher than that of 181 countries and territories, with only 18 reporting higher rates. At the regional level, the Western Pacific demonstrated the highest overall prevalence of obesity, whereas South-East Asia and Africa recorded the lowest population-level obesity rates.

1. Introduction

Obesity has become increasingly prevalent worldwide over recent decades, with substantial increases observed in both industrialized and developing countries. In 2016, the World Health Organization (WHO) reported that more than 1.9 billion adults aged 18 years and older were overweight, of whom over 650 million were living with obesity. This corresponded to more than 39% of the global adult population being overweight and approximately 13% being obese. Furthermore, nearly two in five adults worldwide are now classified as overweight or obese (OAO) [1].

According to Imes and Burke (2014), the prevalence of obesity continues to rise across both industrialized and developing nations and has reached historically high levels in the United States and globally. More recent estimates from the WHO indicate that, in 2022, one in eight individuals worldwide was affected by obesity. Since 1990, the prevalence of obesity has more than doubled among adults and quadrupled among adolescents worldwide. In the same year, approximately 2.5 billion adults aged 18 years or older were overweight, including 890

million individuals living with obesity. Overall, 16% of the global adult population was classified as obese, while 43% was classified as overweight. The burden of excess body weight also extends to younger populations. In 2024, an estimated 35 million children under the age of five were overweight. Additionally, in 2022, more than 390 million children and adolescents aged 5–19 years were overweight, of whom approximately 160 million were living with obesity [2].

In an attempt to define obesity, scientists and researchers have encountered significant challenges due to the evolving global understanding of the condition. Despite these challenges, multiple definitions of obesity have been proposed within the academic literature. WHO [3] described obesity as an uncontrolled accumulation of body fat that has reached epidemic proportions worldwide, shifting from a relatively minor public health issue to a major global health crisis. Similarly, [4] characterized obesity as a complex, multifactorial chronic condition resulting from the interaction between genetic and environmental factors. Although the precise mechanisms underlying the development of obesity are not yet fully understood, it is widely recognized that social, behavioral, cultural, physiological, metabolic, and genetic factors collectively contribute to its occurrence.

Obesity is associated with numerous major health conditions, and its rising prevalence represents not merely an aesthetic issue but a substantial public health concern. Individuals with obesity face a significantly increased risk of developing chronic diseases such as type 2 diabetes, cardiovascular disease, various cancers, osteoarthritis, and sleep apnea. Collectively, these comorbidities place considerable strain on healthcare systems worldwide by increasing direct medical expenditures and indirect costs related to productivity losses. This escalating burden contributes to higher morbidity and mortality rates, as well as rising overall healthcare costs [5, 6].

Furthermore, according to the World Health Organization [7], overweight and obesity are conditions characterized by excessive accumulation of body fat. Obesity is a chronic, relapsing disease resulting from a complex interplay of genetic predisposition, neurobiological mechanisms, dietary patterns, access to healthy foods, socioeconomic factors, and environmental influences. Over recent decades, the global prevalence of obesity has increased markedly, driven by improvements in food availability, economic development, and lifestyle changes, including reduced physical activity and increased consumption of processed foods. These shifts have fostered obesogenic environments that promote weight gain, contributing to a global public health crisis, with more than one billion people currently living with obesity worldwide [7].

Consistent with this perspective, [8, 9] emphasize that obesity arises from the interaction of multiple determinants, including dietary changes, physical inactivity, genetic susceptibility, and socioeconomic conditions. Moreover, the widespread adoption of Westernized dietary patterns—characterized by high intakes of processed foods, sweets, saturated fats, and sugar-sweetened beverages—has played a substantial role in accelerating the global obesity epidemic. The increased availability and affordability of energy-dense, nutrient-poor foods, particularly in rapidly developing low- and middle-income countries, have driven significant shifts in dietary behaviors.

Unfortunately, on a global scale, these highly processed foods, despite being high in calories and low in nutritional value, are often less expensive than healthier alternatives such as whole grains, fruits, and vegetables, which are typically more nutrient-dense and lower in energy content. Furthermore, obesity has also been strongly linked to sedentary lifestyles, driven by increased reliance on motorized transportation, greater use of technology, and reduced physical activity in occupational and educational settings [10]. This pattern is especially pronounced among individuals engaged in desk-based occupations and those living in urban environments. In many regions worldwide, the convenience of automobile use combined with the widespread appeal of screen-based entertainment has substantially reduced physical activity levels, thereby decreasing daily energy expenditure.

In addition, [11, 12] argued that obesity rates are higher in underprivileged groups due to a combination of factors such as poverty, a lack of access to safe places for physical activity, and a lack of nutritious food options. The incidence of obesity is also significantly influenced by social determinants of health, including access to healthcare facilities, work opportunities, and educational attainment. Those who are already marginalized are disproportionately affected by a cycle of disadvantages caused by limited access to reasonably priced, nutrient-dense food and a lack of safe areas for physical activity in underprivileged neighborhoods. Furthermore, individuals with less education and fewer job opportunities are more likely to be exposed to unhealthy food sources and have limited access to tools that promote healthy lifestyle choices. Conversely, according to [13, 14], the widespread availability of food in highly industrialized economies, particularly ultra-processed products, has played a substantial role in promoting excessive energy intake. In countries such as the United States, Canada, and China, large-scale food production and aggressive marketing strategies have increased access to inexpensive, energy-dense foods that are high in added sugars, fats, and refined carbohydrates. This environment fosters habitual overeating and disrupts normal appetite regulation, thereby contributing significantly to the rising prevalence of obesity.

Body mass index (BMI), a widely used tool for assessing overweight and obesity, represents body weight adjusted for height but does not directly measure body composition. According to standard classification criteria, overweight is defined as a BMI $\geq 25\ \mathrm{kg/m^2}$, while obesity is defined as a BMI $\geq 30\ \mathrm{kg/m^2}$ [2, 15–19]. Furthermore [16] defines obesity as an excess accumulation of body fat, with the fundamental assumption underlying BMI-based classifications being that, for a given height, greater body weight corresponds to increased adiposity. However, its widespread application, BMI, is regarded by many scholars as an imperfect indicator of body fatness, primarily because it does not directly quantify fat mass [16, 20, 21].

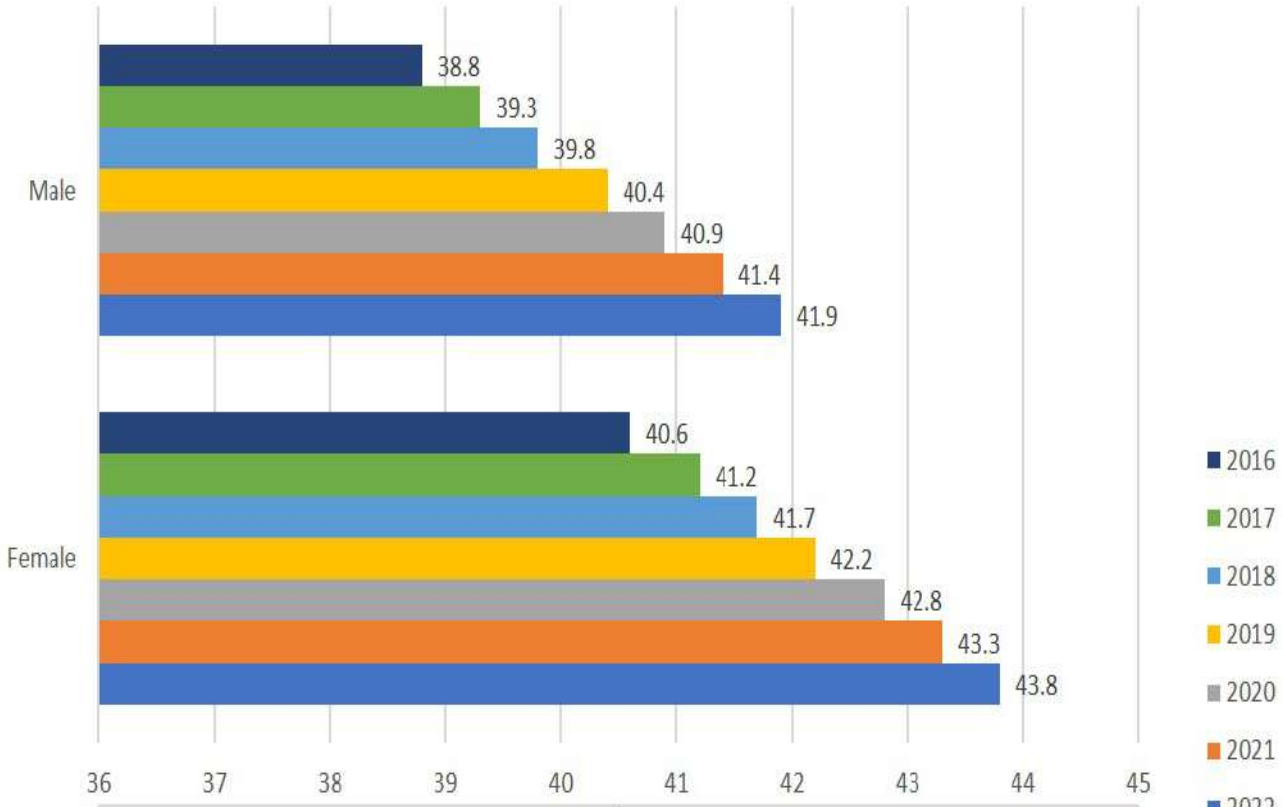
Over time, in response to BMI's limitations for classifying overweight and obesity, alternative anthropometric measures for assessing adiposity—such as waist circumference (WC) and waist-to-stature ratio (WSR)—have been proposed [22]. Additionally, more advanced techniques, including dual-energy X-ray absorptiometry (DXA), have been developed and are regarded as among the most precise methods for directly measuring total body fat and lean soft tissue mass. Nevertheless, DXA requires specialized equipment and involves exposure to low levels of ionizing radiation [22–24]. However, despite advances in methods for assessing obesity and overweight, BMI offers several methodological advantages that contribute to its widespread use in both clinical and epidemiological settings. It is computationally simple, does not require specialized equipment, and can be readily integrated into routine clinical assessments, thereby facilitating timely clinical decision-making. Furthermore, its widespread recognition and standardized interpretation enhance its utility among healthcare professionals and the general population alike, allowing for independent calculation and interpretation using readily available resources [25].

This research aims to conduct a comparative analysis of obesity prevalence in the United States of America in relation to other developed and developing countries and territories across the six World Health Organization regions worldwide. In addition, the study will examine sex-specific obesity prevalence among adults in the United States.

2. Methodology

This comparative study examines the prevalence of overweight and obesity in the United States of America in relation to other developed and developing countries worldwide. Data were obtained from publications issued by the World Health Organization (WHO) between 2016 and 2022. The analysis encompasses all six WHO regions—Africa, the Americas, Eastern Mediterranean, South-East Asia, Western Pacific, and Europe—to capture trends across both developed and developing nations. The data were primarily sourced from the WHO Global Health Observatory (GHO) Data Repository (https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(crude-estimate)-(-)) in October 2025. At the time of this research, the most recent data available in the repository were from 2022. The data, as presented on the website, are disaggregated by year and sex. Comparisons of obesity prevalence rates between the United States and other countries are described and reproduced with permission obtained from the WHO.

3. Results



	Female	Male
2016	40.6	38.8
2017	41.2	39.3
2018	41.7	39.8
2019	42.2	40.4
2020	42.8	40.9
2021	43.3	41.4
2022	43.8	41.9

Figure 1: Bar chart showing the prevalence of obesity (BMI $\geq$ 30 kg/m^2) among male and female adults aged $\geq$ 18 years in the United States of America from 2016 to 2022, expressed as percentages. Data were obtained from the World Health Organization (WHO) Global Health Observatory Data Repository and reproduced with permission from https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(crude-estimate)-(-)

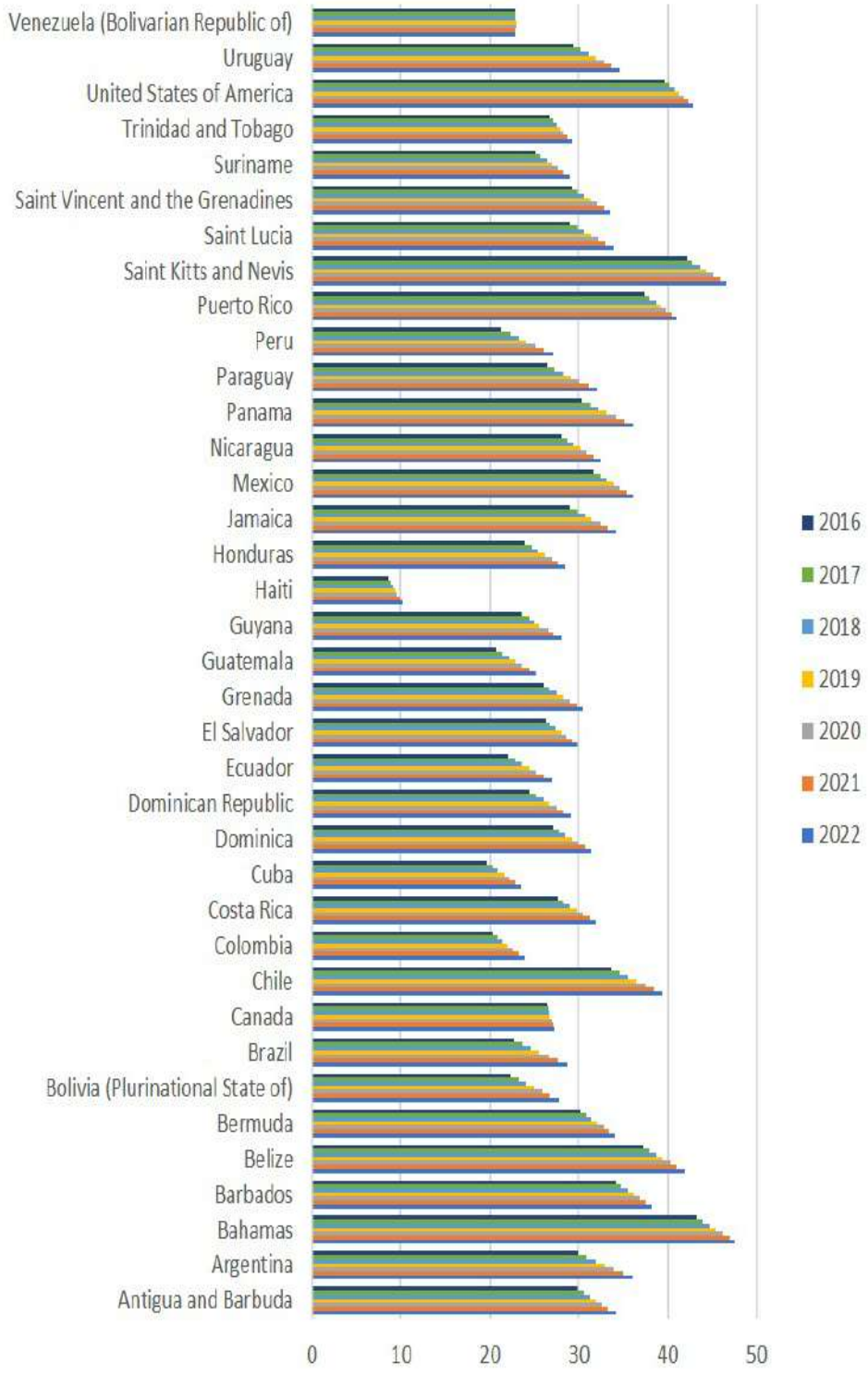


Figure 2: Bar chart illustrating the prevalence of obesity (BMI $\geq$ 30 kg/m^2) among adults aged 18 years or older in the Americas from 2016 to 2022, expressed as percentages. Data were obtained from the World Health Organization (WHO) Global Health Observatory Data Repository and reproduced with permission from https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(crude-estimate)-(-)

Table 1: Shows the prevalence of obesity (BMI $\geq$ 30 kg/m^2) among adults aged 18 years or older in the Americas from 2016 to 2022, expressed as percentages. Data were obtained from the World Health Organization (WHO) Global Health Observatory Data Repository and reproduced with permission from https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(crude-estimate)-(-)

Countries	2022	2021	2020	2019	2018	2017	2016
Antigua and Barbuda	34.1	33.3	32.6	31.9	31.2	30.6	29.9
Argentina	36	35	33.9	32.9	31.9	30.9	30
Bahamas	47.6	46.9	46.2	45.4	44.7	44	43.3
Barbados	38.2	37.5	36.9	36.2	35.5	34.8	34.1
Belize	41.9	41.1	40.3	39.5	38.7	38	37.2
Bermuda	34	33.4	32.8	32.1	31.5	30.9	30.2
Bolivia (Plurinational State of)	27.8	26.8	25.9	25	24.1	23.2	22.4
Brazil	28.8	27.7	26.7	25.6	24.6	23.7	22.7
Canada	27.3	27.1	27	26.8	26.7	26.5	26.4
Chile	39.5	38.5	37.5	36.5	35.5	34.6	33.7
Colombia	23.9	23.2	22.6	22	21.4	20.9	20.3
Costa Rica	32	31.2	30.5	29.7	29	28.3	27.6
Cuba	23.5	22.9	22.2	21.6	20.9	20.3	19.7
Dominica	31.5	30.7	30	29.2	28.5	27.8	27.1
Dominican Republic	29.1	28.3	27.5	26.7	26	25.2	24.5
Ecuador	27	26.1	25.2	24.4	23.6	22.9	22.1
El Salvador	29.9	29.2	28.6	28	27.4	26.8	26.3
Grenada	30.5	29.7	29	28.2	27.5	26.7	26
Guatemala	25.2	24.4	23.6	22.9	22.2	21.4	20.8
Guyana	28	27.2	26.5	25.6	24.9	24.4	23.6
Haiti	10.2	9.9	9.6	9.3	9.1	8.8	8.6
Honduras	28.5	27.7	27	26.2	25.4	24.7	24
Jamaica	34.2	33.3	32.4	31.5	30.7	29.8	29
Mexico	36.1	35.4	34.6	33.9	33.2	32.5	31.7
Nicaragua	32.4	31.7	30.9	30.2	29.4	28.7	28
Panama	36.1	35.1	34.1	33.2	32.2	31.3	30.3
Paraguay	32.1	31.1	30.1	29.1	28.2	27.3	26.4
Peru	27.2	26.1	25.1	24.1	23.2	22.3	21.3
Puerto Rico	41	40.4	39.8	39.2	38.7	38	37.4
Saint Kitts and Nevis	46.6	45.9	45.1	44.3	43.6	42.8	42.1
Saint Lucia	33.9	33.1	32.2	31.4	30.6	29.8	29
Saint Vincent and the Grenadines	33.6	32.8	32.1	31.3	30.6	29.9	29.2
Suriname	29	28.3	27.6	27	26.4	25.7	25.1
Trinidad and Tobago	29.2	28.7	28.3	27.9	27.5	27.2	26.8
United States of America	42.9	42.4	41.8	41.3	40.8	40.2	39.7
Uruguay	34.7	33.7	32.8	31.9	31.1	30.2	29.4
Venezuela (Bolivarian Republic of)	22.8	22.9	23	23	22.9	22.9	22.8

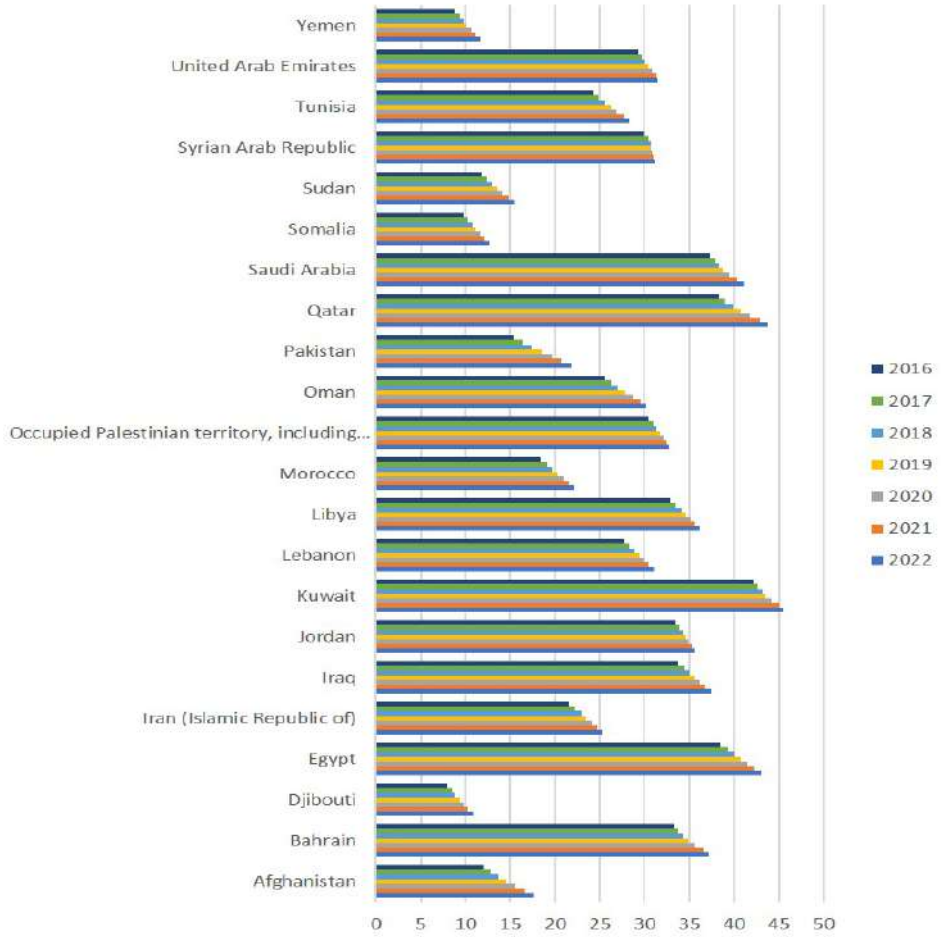


Figure 3: Bar chart illustrating the prevalence of obesity (BMI $\geq$ 30 kg/m^2) among adults aged 18 years or older in the Eastern Mediterranean from 2016 to 2022, expressed as percentages. Data were obtained from the World Health Organization (WHO) Global Health Observatory Data Repository and reproduced with permission from https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(crude-estimate)-(-)

Table 2: Shows the prevalence of obesity (BMI $\geq$ 30 kg/m^2) among adults aged 18 years or older in the Eastern Mediterranean from 2016 to 2022, expressed as percentages. Data were obtained from the World Health Organization (WHO) Global Health Observatory Data Repository and reproduced with permission from https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(crude-estimate)-(-)

Countries	2022	2021	2020	2019	2018	2017	2016
Afghanistan	17.6	16.6	15.6	14.6	13.7	12.8	12
Bahrain	37.2	36.6	35.7	34.9	34.2	33.7	33.3
Djibouti	10.9	10.3	9.8	9.4	8.9	8.5	8
Egypt	43	42.3	41.5	40.8	40	39.3	38.4
Iran (Islamic Republic of)	25.3	24.7	24.1	23.5	22.9	22.2	21.5
Iraq	37.4	36.8	36.2	35.6	35	34.4	33.7
Jordan	35.6	35.3	34.9	34.6	34.2	33.9	33.5
Kuwait	45.4	45	44.2	43.5	43.1	42.7	42.2
Lebanon	31.1	30.5	29.9	29.4	28.9	28.3	27.7
Libya	36.2	35.6	35.1	34.6	34.1	33.5	32.9
Morocco	22.1	21.5	20.9	20.3	19.7	19.1	18.4
Occupied Palestinian territory, including East Jerusalem	32.8	32.5	32.1	31.7	31.3	30.9	30.5
Oman	30.2	29.5	28.7	27.8	27	26.2	25.6
Pakistan	21.8	20.7	19.6	18.5	17.4	16.4	15.3
Qatar	43.8	42.9	41.8	40.7	39.8	39	38.3
Saudi Arabia	41.1	40.4	39.5	38.7	38.3	37.9	37.3
Somalia	12.7	12.2	11.7	11.2	10.7	10.2	9.8
Sudan	15.5	14.8	14.1	13.5	12.9	12.4	11.8
Syrian Arab Republic	31.2	31	30.8	30.7	30.7	30.5	30
Tunisia	28.3	27.6	26.9	26.3	25.6	24.9	24.2
United Arab Emirates	31.5	31.3	30.8	30.4	30.1	29.7	29.3
Yemen	11.6	11.1	10.6	10.1	9.7	9.3	8.8

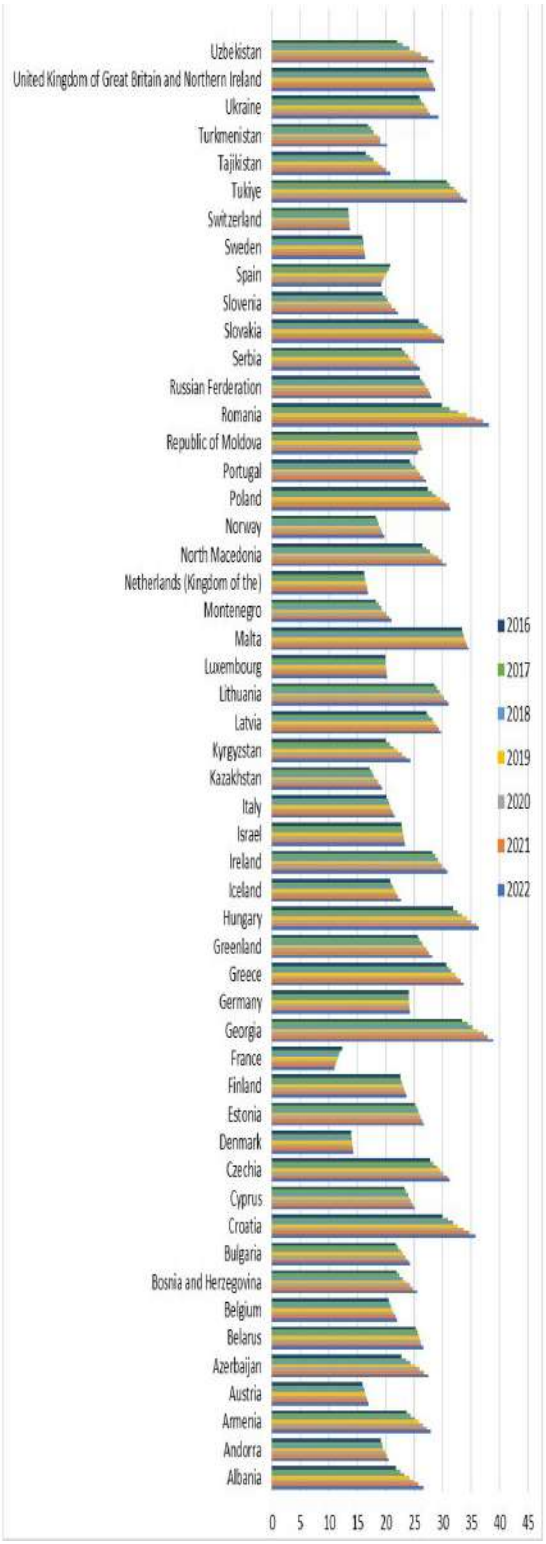


Figure 4: Bar chart illustrating the prevalence of obesity (BMI $\geq$ 30 kg/m^2) among adults aged 18 years or older in Europe from 2016 to 2022, expressed as percentages. Data were obtained from the World Health Organization (WHO) Global Health Observatory Data Repository and reproduced with permission from https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(crude-estimate)-(-)

Table 3: Shows the prevalence of obesity (BMI $\geq$ 30 kg/m^2) among adults aged 18 years or older in Europe from 2016 to 2022, expressed as percentages. Data were obtained from the World Health Organization (WHO) Global Health Observatory Data Repository and reproduced with permission from https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(crude-estimate)-(-)

Countries	2022	2021	2020	2019	2018	2017	2016
Albania	26.6	25.7	24.9	24.1	23.3	22.5	21.8
Andorra	20.5	20.2	19.9	19.7	19.5	19.3	19.1
Armenia	27.9	27.2	26.5	25.8	25.1	24.4	23.7
Austria	17	16.8	16.6	16.4	16.3	16.1	15.9
Azerbaijan	27.5	26.7	25.9	25.2	24.4	23.6	22.8
Belarus	26.6	26.3	26.2	25.9	25.7	25.5	25.2
Belgium	22	21.7	21.4	21.2	20.9	20.7	20.5
Bosnia and Herzegovina	25.5	24.8	24.2	23.6	23	22.4	21.9
Bulgaria	24.2	23.9	23.5	23.1	22.6	22.2	21.8
Croatia	35.7	34.7	33.7	32.7	31.8	30.9	30
Cyprus	25.1	24.8	24.5	24.1	23.9	23.6	23.3
Czechia	31.3	30.8	30.2	29.6	29	28.4	27.8
Denmark	14.3	14.2	14.1	14.1	14	13.9	13.9
Estonia	26.7	26.4	26.2	25.9	25.7	25.4	25.1
Finland	23.7	23.5	23.3	23.1	22.9	22.7	22.5
France	10.9	11.1	11.4	11.6	11.8	12	12.3
Georgia	38.9	38	37.2	36.2	35.3	34.4	33.4
Germany	24.2	24.1	24.1	24	24	24	24
Greece	33.7	33.2	32.7	32.2	31.6	31.1	30.6
Greenland	28.2	27.7	27.2	26.8	26.4	26	25.6
Hungary	36.4	36	35.1	34.2	33.4	32.6	31.8
Iceland	22.6	22.2	21.9	21.6	21.3	21.1	20.8
Ireland	30.8	30.4	29.9	29.5	29.1	28.7	28.2
Israel	23.4	23.3	23.2	23.1	23	22.9	22.8
Italy	21.6	21.3	21	20.8	20.6	20.4	20.1
Kazakhstan	19.3	19	18.6	18.3	17.9	17.5	17.1
Kyrgyzstan	24.4	23.6	22.9	22.1	21.4	20.7	20
Latvia	29.8	29.4	29	28.6	28.2	27.7	27.2
Lithuania	31.1	30.7	30.3	29.9	29.5	29	28.6
Luxembourg	20.2	20.1	20	19.9	19.9	19.9	19.9
Malta	34.6	34.3	34.1	33.9	33.7	33.5	33.4
Montenegro	21.1	20.6	20.1	19.6	19.2	18.7	18.3
Netherlands (Kingdom of the)	16.9	16.8	16.7	16.5	16.4	16.3	16.2
North Macedonia	30.6	29.9	29.2	28.5	27.8	27.1	26.4
Norway	19.8	19.5	19.2	19	18.7	18.5	18.3
Poland	31.4	31.2	30.4	29.7	28.9	28.2	27.4
Portugal	27.1	26.6	26.1	25.6	25.2	24.7	24.2
Republic of Moldova	25.6	26.4	26.3	26.1	25.9	25.7	25.5
Romania	38.2	37.1	35.7	34.3	32.8	31.3	29.9
Russian Federation	28	27.8	27.5	27.1	26.8	26.4	26.1
Serbia	26.1	25.5	24.9	24.4	23.9	23.4	22.9
Slovakia	30.3	29.9	29	28.2	27.4	26.6	25.8
Slovenia	22.2	21.7	21.1	20.7	20.3	19.9	19.5
Spain	19.2	19.4	19.7	20	20.3	20.6	20.8
Sweden	16.4	16.3	16.2	16.1	16.1	16	15.9
Switzerland	13.7	13.6	13.6	13.5	13.5	13.4	13.4
Tukiye	34.3	33.6	33.1	32.5	31.9	31.3	30.7
Tajikistan	20.8	20	19.3	18.6	17.9	17.2	16.5
Turkmenistan	20.2	19	19	18.5	17.9	17.4	16.9
Ukraine	29.2	27.8	27.4	27.1	26.7	26.3	25.9
United Kingdom of Great Britain and Northern Ireland	28.7	28.4	28.2	27.9	27.7	27.4	27.1
Uzbekistan	28.5	27.4	26.3	25.2	24.1	23	22

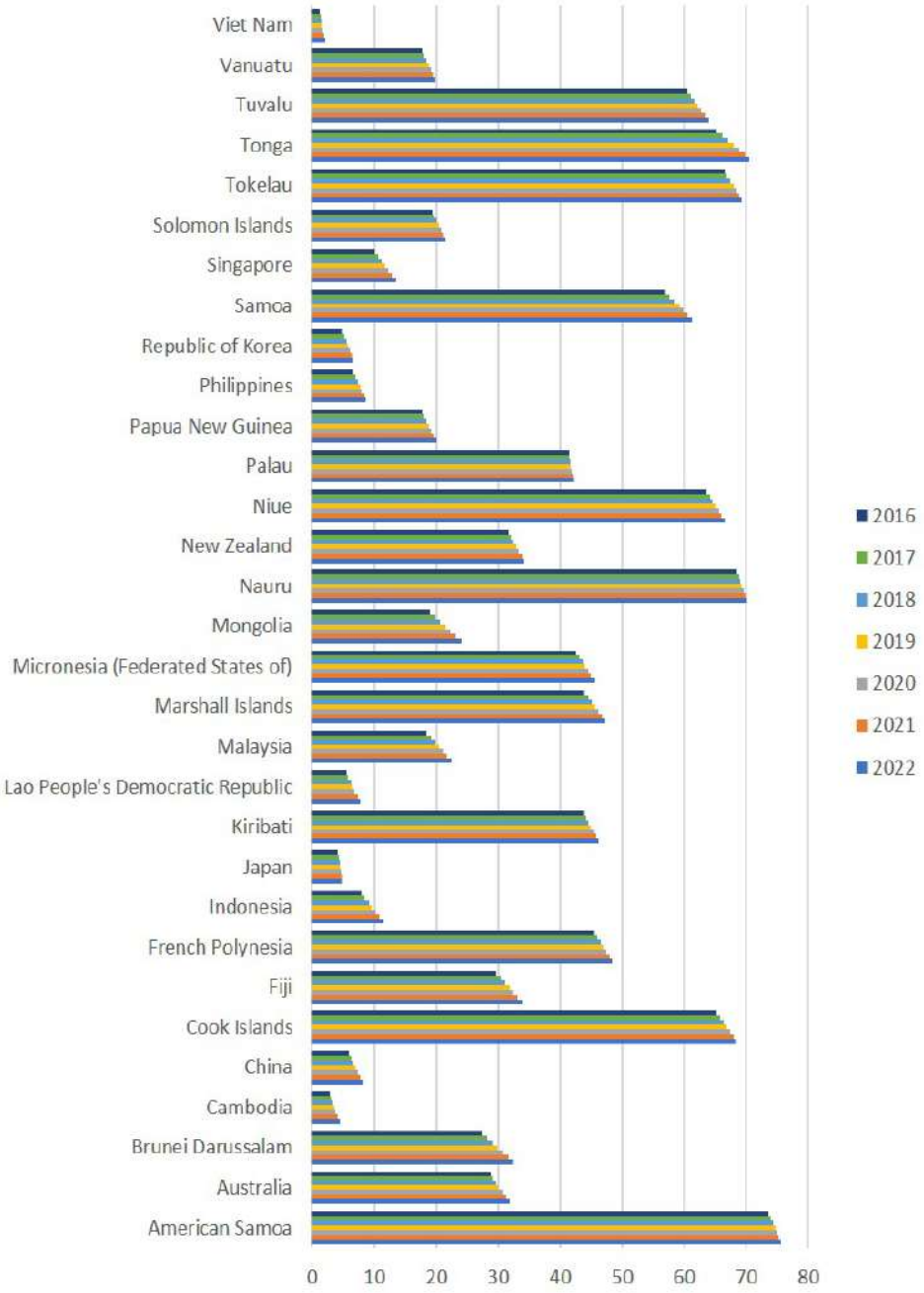


Figure 5: Bar chart illustrating the prevalence of obesity (BMI $\geq$ 30 kg/m^2) among adults aged 18 years or older in the West Pacific from 2016 to 2022, expressed as percentages. Data were obtained from the World Health Organization (WHO) Global Health Observatory Data Repository and reproduced with permission from https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(crude-estimate)-(-)

Table 4: Shows the prevalence of obesity (BMI $\geq$ 30 kg/m^2) among adults aged 18 years or older in the West Pacific from 2016 to 2022, expressed as percentages. Data were obtained from the World Health Organization (WHO) Global Health Observatory Data Repository and reproduced with permission from https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(crude-estimate)-(-)

Countries	2022	2021	2020	2019	2018	2017	2016
American Samoa	75.6	75.3	75	74.6	74.3	74	73.6
Australia	31.8	31.3	30.7	30.1	29.6	29.1	28.7
Brunei Darussalam	32.4	31.6	30.7	29.9	29.1	28.2	27.3
Cambodia	4.4	4.1	3.8	3.6	3.3	3.1	2.9
China	8.2	7.8	7.4	7	6.6	6.2	5.9
Cook Islands	68.4	67.9	67.4	66.9	66.3	65.8	65.2
Fiji	33.8	33.2	32.5	31.8	31.1	30.4	29.7
French Polynesia	48.4	48	47.5	47	46.5	46	45.5
Indonesia	11.5	10.9	10.2	9.6	9.1	8.5	8
Japan	4.9	4.8	4.6	4.5	4.4	4.2	4.1
Kiribati	46.2	45.8	45.4	45	44.6	44.2	43.8
Lao People's Democratic Republic	7.8	7.3	6.9	6.5	6.2	5.8	5.5
Malaysia	22.4	21.7	21.1	20.4	19.8	19.1	18.5
Marshall Islands	47.3	46.8	46.2	45.7	45.1	44.5	43.9
Micronesia (Federated States of)	45.6	45	44.5	44	43.6	43.1	42.6
Mongolia	24	23.2	22.3	21.5	20.6	19.8	19
Nauru	70.2	69.9	69.6	69.3	69	68.8	68.6
New Zealand	34.2	33.8	33.4	32.9	32.5	32.1	31.7
Niue	66.5	66	65.6	65.1	64.6	64.1	63.6
Palau	42.2	42	41.9	41.7	41.6	41.5	41.4
Papua New Guinea	20.1	19.7	19.2	18.8	18.4	18.1	17.7
Philippines	8.7	8.4	8	7.7	7.3	7	6.7
Republic of Korea	6.7	6.4	6.1	5.8	5.5	5.2	4.9
Samoa	61.2	60.6	59.9	59.2	58.4	57.7	56.9
Singapore	13.5	12.9	12.3	11.7	11.1	10.6	10.1
Solomon Islands	21.6	21.2	20.8	20.4	20.1	19.7	19.4
Tokelau	69.2	68.9	68.6	68	67.5	66.9	66.5
Tonga	70.5	69.7	68.9	68	67.1	66.2	65.2
Tuvalu	63.9	63.4	62.8	62.2	61.6	61.1	60.5
Vanuatu	19.9	19.6	19.2	18.8	18.5	18.1	17.8
Viet Nam	2.1	1.9	1.7	1.6	1.5	1.3	1.2

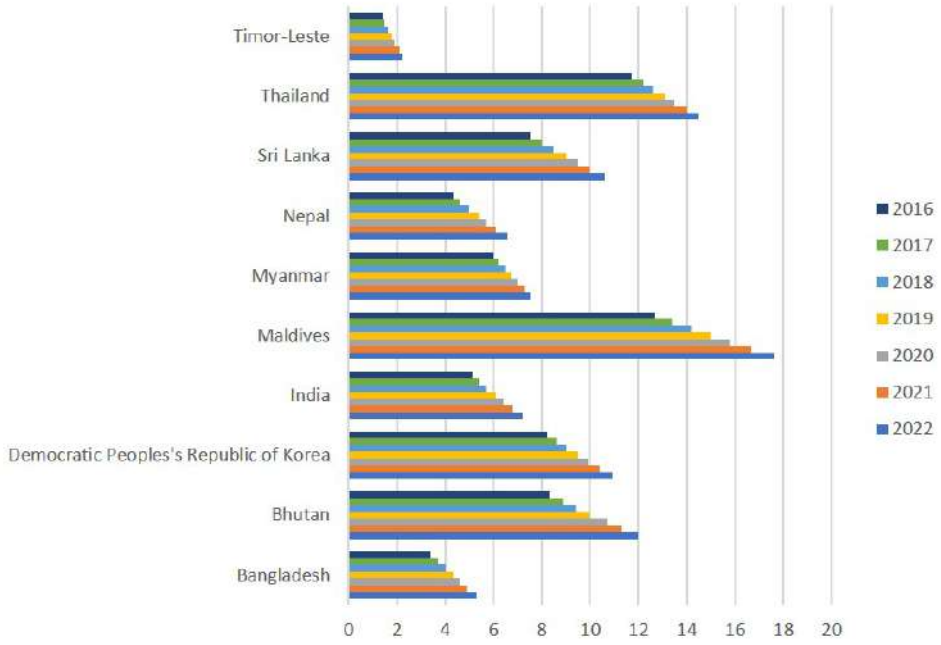


Figure 6: Bar chart illustrating the prevalence of obesity (BMI $\geq$ 30 kg/m^2) among adults aged 18 years or older in the South-East Asia from 2016 to 2022, expressed as percentages. Data were obtained from the World Health Organization (WHO) Global Health Observatory Data Repository and reproduced with permission from https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(crude-estimate)-(-)

Table 5: Shows the prevalence of obesity (BMI $\geq$ 30 kg/m^2) among adults aged 18 years or older in the South-East Asia from 2016 to 2022, expressed as percentages. Data were obtained from the World Health Organization (WHO) Global Health Observatory Data Repository and reproduced with permission from https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(crude-estimate)-(-)

Countries	**2022**	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**
Bangladesh	5.3	4.9	4.6	4.3	4	3.7	3.4
Bhutan	12	11.3	10.7	10	9.4	8.9	8.3
Democratic People's Republic of Korea	10.9	10.4	9.9	9.5	9	8.6	8.2
India	7.2	6.8	6.4	6.1	5.7	5.4	5.1
Maldives	17.6	16.7	15.8	15	14.2	13.4	12.7
Myanmar	7.5	7.3	7	6.7	6.5	6.2	6
Nepal	6.6	6.1	5.7	5.4	5	4.6	4.3
Sri Lanka	10.6	10	9.5	9	8.5	8	7.5
Thailand	14.5	14	13.5	13.1	12.6	12.2	11.7
Timor-Leste	2.2	2.1	1.9	1.8	1.6	1.5	1.4

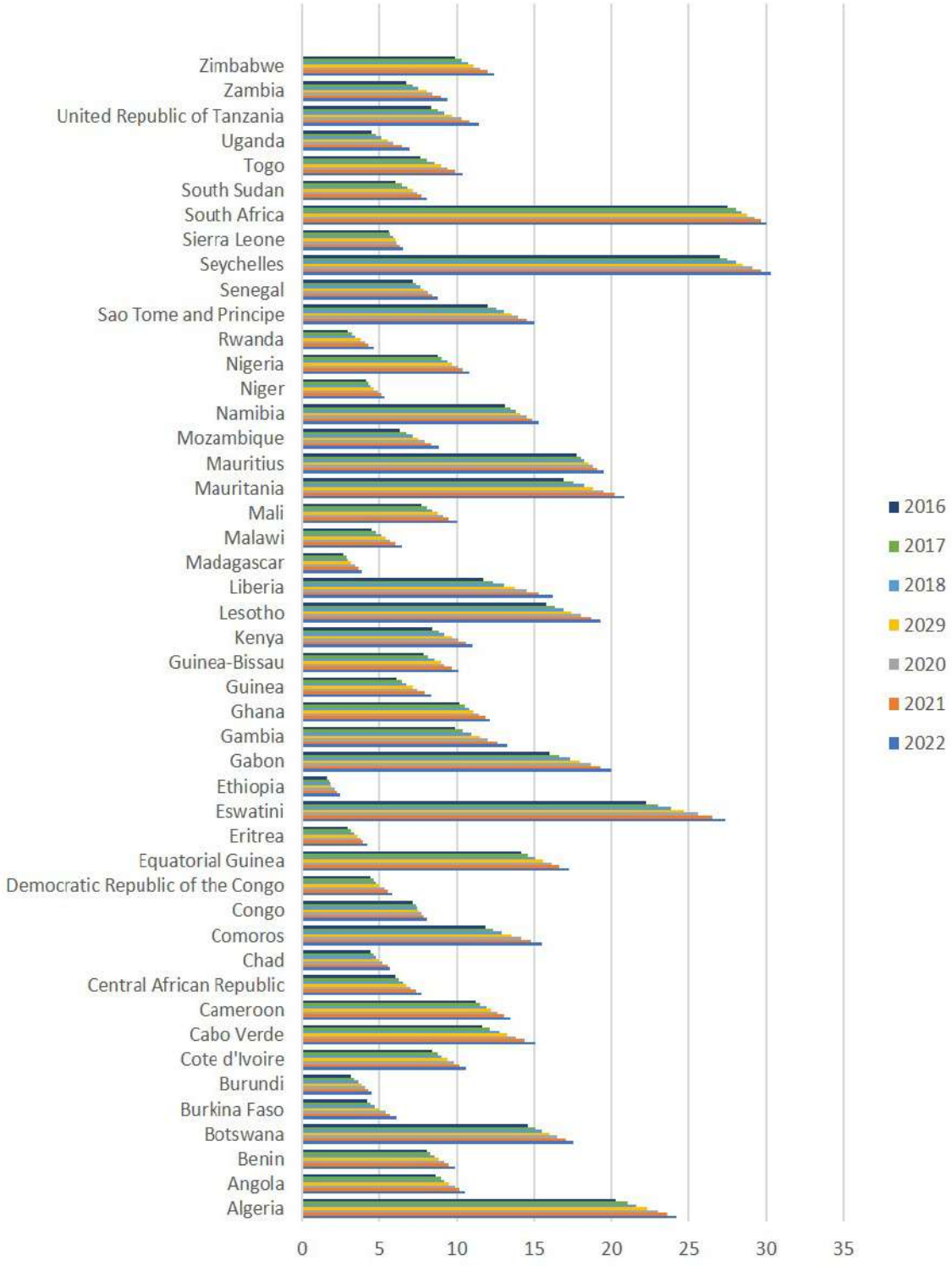


Figure 7: Bar chart illustrating the prevalence of obesity (BMI $\geq$ 30 kg/m^2) among adults aged 18 years or older in Africa from 2016 to 2022, expressed as percentages. Data were obtained from the World Health Organization (WHO) Global Health Observatory Data Repository and reproduced with permission from https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(crude-estimate)-(-)

Table 6: Shows the prevalence of obesity (BMI $\geq$ 30 kg/m^2) among adults aged 18 years or older in Africa from 2016 to 2022, expressed as percentages. Data were obtained from the World Health Organization (WHO) Global Health Observatory Data Repository and reproduced with permission from https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(crude-estimate)-(-)

Countries	2022	2021	2020	2019	2018	2017	2016
Algeria	24.2	23.6	23	22.3	21.6	21	20.3
Angola	10.5	10.2	9.9	9.5	9.2	8.9	8.6
Benin	9.9	9.5	9.2	8.8	8.5	8.2	8
Botswana	17.5	17	16.5	16	15.5	15.1	14.6
Burkina Faso	6.1	5.7	5.4	5	4.7	4.4	4.2
Burundi	4.5	4.3	4	3.8	3.6	3.3	3.1
Cote d'Ivoire	10.6	10.2	9.8	9.4	9	8.7	8.4
Cabo Verde	15.1	14.4	13.8	13.2	12.7	12.1	11.6
Cameron	13.4	13	12.6	12.2	11.9	11.5	11.2
Central African Republic	7.7	7.3	7	6.7	6.5	6.2	6
Chad	5.7	5.5	5.2	5	4.8	4.6	4.4
Comoros	15.5	14.8	14.2	13.5	12.9	12.3	11.8
Congo	8	7.8	7.7	7.5	7.4	7.3	7.1
Democratic Republic of Congo	5.8	5.5	5.3	5	4.8	4.6	4.4
Equatorial Guinea	17.2	16.6	16.1	15.6	15.1	14.6	14.2
Eritrea	4.2	3.9	3.7	3.5	3.3	3.1	2.9
Eswatini	27.3	26.5	25.6	24.7	23.9	23	22.2
Ethiopia	2.4	2.2	2.1	1.9	1.8	1.7	1.6
Gabon	20	19.3	18.6	17.9	17.3	16.6	16
Gambia	13.2	12.6	12	11.5	10.9	10.4	9.9
Ghana	12.1	11.8	11.4	11.1	10.8	10.5	10.2
Guinea	8.3	7.9	7.4	7.1	6.7	6.4	6.1
Guinea-Bissau	10.1	9.7	9.2	8.9	8.5	8.1	7.8
Kenya	11	10.6	10.1	9.7	9.2	8.8	8.4
Lesotho	19.3	18.7	18	17.4	16.9	16.3	15.8
Liberia	16.2	15.3	14.5	13.7	13	12.3	11.7
Madagascar	3.8	3.6	3.4	3.1	2.9	2.8	2.6
Malawi	6.4	6	5.7	5.4	5.1	4.8	4.5
Mali	10	9.5	9.1	8.7	8.4	8	7.7
Mauritania	20.8	20.2	19.5	18.8	18.2	17.5	16.9
Mauritius	19.5	19.1	18.8	18.5	18.2	18	17.7
Mozambique	8.8	8.3	7.9	7.5	7.1	6.7	6.3
Namibia	15.3	14.9	14.5	14.1	13.8	13.4	13.1
Niger	5.3	5.1	4.9	4.6	4.4	4.3	4.1
Nigeria	10.8	10.4	10.1	9.7	9.4	9	8.7
Rwanda	4.6	4.3	4	3.7	3.4	3.2	2.9
Sao Tome and Principe	15	14.5	14	13.5	13	12.5	12
Senegal	8.7	8.4	8.1	7.8	7.6	7.3	7.1
Seychelles	30.3	29.7	29.1	28.5	28	27.5	27
Sierra Leone	6.5	6.3	6.1	6	5.9	5.7	5.6
South Africa	30	29.7	29.3	28.8	28.4	28	27.5
South Sudan	8	7.7	7.4	7.1	6.8	6.4	6
Togo	10.4	9.9	9.4	8.9	8.5	8	7.6
Uganda	6.9	6.4	5.9	5.5	5.1	4.8	4.5
United Republic of Tanzania	11.4	10.8	10.3	9.7	9.2	8.7	8.3
Zambia	9.4	8.9	8.4	8	7.5	7.1	6.7
Zimbabwe	12.4	12	11.5	11.1	10.7	10.3	9.9

4. Discussions

Obesity (BMI $\geq$ 30 kg/m^2 has emerged as a persistent and escalating public health challenge over recent decades and continues to pose a significant concern globally. Based on the results presented above, Figure 1 compares obesity prevalence among adult males and females (aged $\geq$ 18 years) in the United States from 2016 to 2022. In 2016, 40.6% of adult females were classified as obese, compared with 38.8% of adult males. This pattern persisted in 2017, with female obesity prevalence rising to 41.2%, compared with 39.3% among males. From 2018 to 2022, the trend remained consistent, with females exhibiting higher obesity rates than males throughout the period. Female obesity prevalence increased steadily from 41.7% in 2018 to 43.8% in 2022, while corresponding male prevalence rose from 39.8% to 41.9% during the same timeframe.

The higher prevalence of obesity among females globally relative to males has been documented in previous research. For instance [26], in a study examining obesity disparities across 68 countries, reported that for every two obese males, there were approximately three obese females. Although sex-based differences in obesity prevalence continue to evolve, several scholars have proposed explanatory mechanisms.

Hoyenga & Hoyenga [27], for example, suggested that females exhibit enhanced biological protection during periods of food scarcity and economic instability, which may predispose them to greater fat accumulation under conditions of sustained energy availability.

Physiological factors may further explain observed sex differences in obesity prevalence. According to [28], although males and females display comparable mean body fat percentages (approximately 12% and 15%, respectively), females possess substantially greater total adipose tissue volume—nearly four times that of males—accounting for about 12% of total body mass compared with 4% in males. Additionally, [29] emphasized that essential adipose tissue (essential fat, EF) plays a critical role in reproductive and endocrine function, contributing to physiological stability. These biological and physiological factors may partly explain why females in the United States exhibit higher obesity prevalence than males, a pattern that also aligns with broader global trends.

The remaining figures and tables compare obesity prevalence across the six World Health Organization (WHO) global regions—Americas, Eastern Mediterranean, Europe, Western Pacific, South-East Asia, and Africa—with that of the United States. Figure 2 and Table 1 present obesity prevalence among adults (aged $\geq$ 18 years) in the Americas region from 2016 to 2022, encompassing 37 countries. In 2016, the United States recorded an obesity prevalence of 39.7%, ranking third highest in the region. Only Saint Kitts and Nevis (42.1%) and the Bahamas (43.3%) reported higher prevalence rates. In contrast, Haiti recorded the lowest prevalence at 8.6%, followed by Cuba at 19.7%. In 2017, obesity prevalence in the United States increased marginally by 0.5%, while Saint Kitts and Nevis maintained the second-highest rate at 42.8%, and the Bahamas recorded the highest prevalence at 44%. Haiti also experienced an increase of approximately 0.2% compared with the previous year. Trends in 2018 remained consistent, with the United States recording the third-highest prevalence at 40.8%, behind Saint Kitts and Nevis (43.6%) and the Bahamas (44.7%), while Haiti continued to record the lowest prevalence at 9.1%. From 2019 to 2022, obesity prevalence across the Americas increased steadily. In the United States, prevalence rose from 41.3% in 2019 to 42.9% in 2022. Notably, Belize recorded an obesity rate comparable to that of the USA in 2021 (41.1%) and 2022 (41.9%). Overall, the United States ranked as the third most obese country in the Americas from 2016 to 2022, with the Bahamas consistently ranking highest, followed by Saint Kitts and Nevis.

Figure 3 and Table 2 illustrate the prevalence of obesity in the Eastern Mediterranean region. In 2016, the United States ranked second, with an obesity prevalence of 39.7%, surpassed only by Kuwait, which exceeded the U.S. rate by 2.5 percentage points. Qatar and Egypt recorded obesity prevalences of 38.3% and 38.4%, respectively, while Djibouti reported the lowest prevalence at 8.0%. This pattern persisted in 2017, with Kuwait remaining the only country with a higher obesity prevalence than the United States, and Djibouti continuing to record the lowest rate.

From 2018 through 2022, Kuwait consistently recorded higher obesity prevalence than the United States, with rates of 42.7%, 43.1%, 43.5%, 44.2%, 45.0%, and 45.4%, respectively. In 2021, Qatar recorded an obesity prevalence of 42.9%, surpassing the United States (42.4%) and placing the U.S. third within the region for that year. Similarly, in 2022, both Qatar (43.8%) and Egypt (43.0%) exceeded the United States obesity prevalence of 42.9%.

Figure 4 and Table 3 present obesity prevalence in Europe, comprising 52 countries. Throughout the period from 2016 to 2022, the United States consistently recorded a higher obesity prevalence than all countries in the European region. Figure 5 and Table 4 depict obesity prevalence in the Western Pacific region. In 2016, 13 of the 31 countries in this region recorded obesity prevalence higher than that of the United States. American Samoa reported the highest prevalence at 73.6%, followed by Nauru (68.6%), Tokelau (66.5%), Cook Islands and Tonga (both 65.2%), Niue (63.6%), Tuvalu (60.5%), Samoa (56.9%), French Polynesia (45.5%), Marshall Islands (43.9%), Kiribati (43.8%), Micronesia (42.6%), and Palau (41.4%). Vietnam recorded the lowest prevalence at 1.2% in 2016. From 2017 to 2022, these 13 countries consistently maintained obesity prevalence rates higher than those of the United States, while Vietnam continued to record the lowest prevalence across the region.

Figure 6 and Table 5 show obesity trends in the South-East Asia region, where the United States recorded higher obesity prevalence than all 10 countries in the region throughout the study period. Figure 7 and Table 6 present obesity prevalence in the African region, comprising 47 countries, all of which recorded lower obesity prevalence than the United States from 2016 to 2022.

Across the six WHO regions, which collectively include 199 countries and territories represented in the Global Health Observatory database, the United States recorded higher adult obesity prevalence than 181 countries in most surveyed years. Between 2016 and 2020, only 16 countries recorded higher obesity prevalence than the United States, including Kuwait (Eastern Mediterranean); the Bahamas and Saint Kitts and Nevis (Americas); and American Samoa, Cook Islands, French Polynesia, Kiribati, Marshall Islands, Micronesia, Nauru, Niue, Palau, Samoa, Tokelau, Tonga, and Tuvalu (Western Pacific). In 2021, Qatar joined this group, increasing the total to 17 countries. Furthermore, in 2022, Qatar and Egypt also surpassed the United States, increasing the total number of countries with higher obesity prevalence to 18.

A common trend across all six regions is the marked increase in obesity prevalence from 2019 to 2022. This rise may be partially attributed to increased sedentary behavior during the COVID-19 pandemic, including prolonged lockdowns and widespread adoption of remote working arrangements. Numerous studies have demonstrated a strong association between sedentary lifestyles and increased obesity risk [10, 30, 31].

5. Conclusion

Overall, the findings indicate that obesity is unevenly distributed globally, with pronounced regional disparities. The Eastern Mediterranean region (notably Qatar, Kuwait, Oman, Saudi Arabia, Syria, and Egypt) exhibits the second-highest prevalence of obesity after North America and the Caribbean. Although South-East Asia and Africa currently report lower prevalence, obesity rates in these regions are increasing rapidly. The Western Pacific region—including American Samoa, the Cook Islands, and Tuvalu—consistently recorded the highest obesity prevalence globally across all surveyed years.

Furthermore, obesity has been implicated as a major contributor to a wide range of public health conditions, including cardiovascular disorders, type 2 diabetes, respiratory disorders (such as obstructive sleep apnea, obesity hypoventilation syndrome, and asthma), musculoskeletal disorders, various cancers (including breast, ovarian, liver, and prostate), reproductive and urological disorders (such as infertility, erectile dysfunction, and pregnancy-related complications including gestational diabetes and preeclampsia), depression, reduced mobility, and physical disability, among others. Consequently, concerted efforts addressing both biomedical and social determinants of health are essential to curb this growing pandemic. Policymakers should collaborate with scientists to develop strategies for reducing the fat content in

highly processed foods, while also promoting environmental designs that encourage physical activity. Access to parks should be expanded in all residential areas, and governments should provide incentives for the use of public transport and cycling as alternatives to private vehicle use.

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