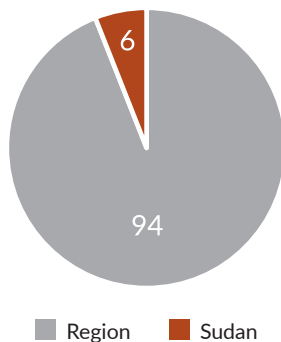


# Sudan

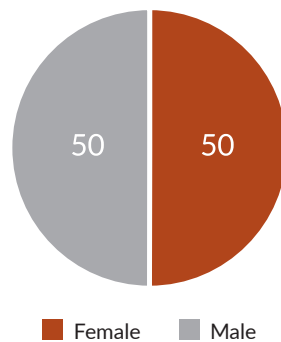
## Demographics

Total population (2020)	43 849 269
Life expectancy at birth (years) female/male (2019)	67/63
Under-5 mortality rate (per 1000 live births) (2019)	58
Gross domestic product per capita (current US\$) (2020)	595.5

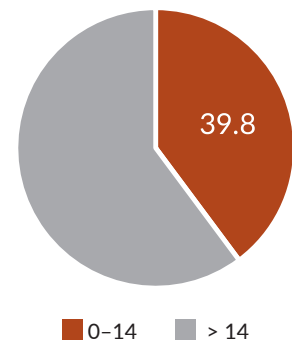
Population as percentage of regional total, 2020



Percentage of female and male population, 2020



Population aged 0-14 of total population, 2020

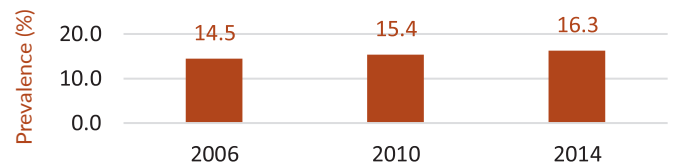


Source: The World Bank

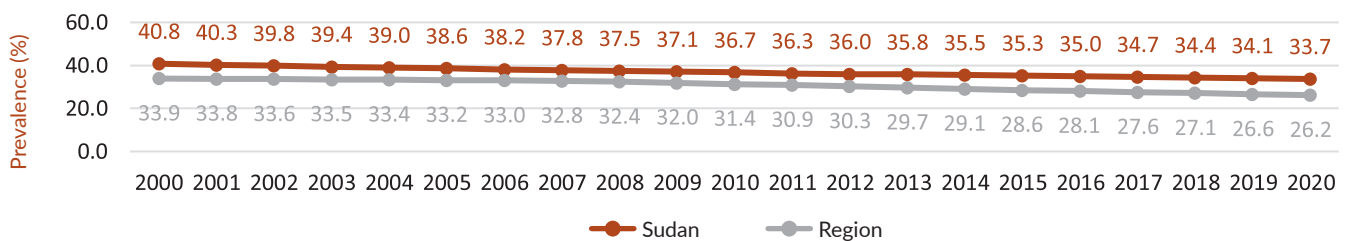
## Child malnutrition

According to joint child malnutrition estimates, the prevalence of wasting in children under five in Sudan increased from 14.5% in 2006 to 16.3% in 2014. The prevalence of stunting has decreased from 40.8% to 33.7% over the past two decades. During the same period, the prevalence of overweight in children under five decreased from 3.5% to 2.7%.

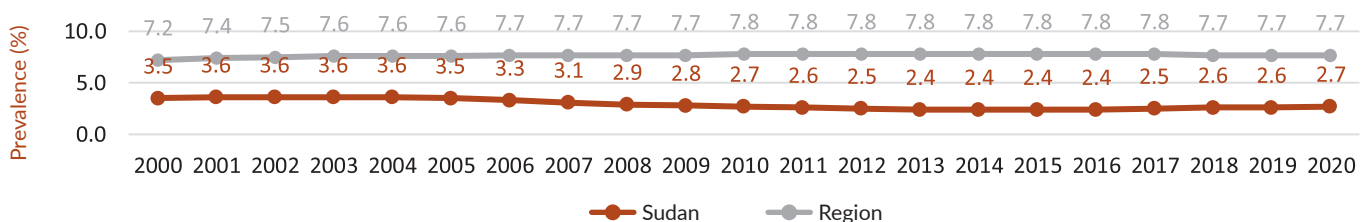
Wasting prevalence among children under 5 years of age



Stunting prevalence among children under 5 years of age



Overweight prevalence among children under 5 years of age



Source: WHO Global Health Observatory.

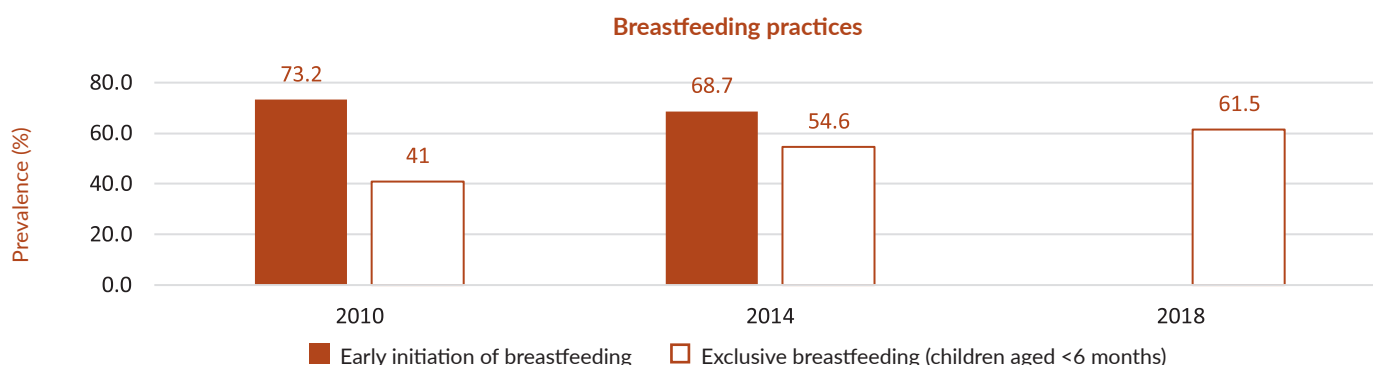
**Note:** The UNICEF/WHO/WB joint child malnutrition estimates for stunting and overweight are modelled at logit (log-odds) scale using a penalized longitudinal mixed-model with a heterogeneous error term. The country modelled estimates are generated using the JME country dataset, which uses the collection of national data sources. Due to this method, estimates may differ from official estimates of Member States (i.e., the stunting prevalence from a household survey for a given country in a given year is not reported as the prevalence for that country in that year; rather, it feeds into the modelled estimates). The methodology is described here: <https://www.who.int/publications/i/item/9789240025257>. Wasting is defined as a percent weight-for-height that is two or more standard deviations below the median. Stunting is defined as a percent height-for-age that is two or more standard deviations below the median. Overweight is defined as a percent weight-for-height that is two or more standard deviations above the median.

### Child malnutrition

According to the Sudan National Survey (S3M II) carried out in 2018, the prevalence of wasting (% weight-for-height <-2 SD) was 14.1%, the prevalence of stunting (% height-for-age <-2 SD) was 36.6% and the prevalence of overweight (% weight-for-height >+2 SD) was 2.3% in 2018.

## Infant and young child feeding

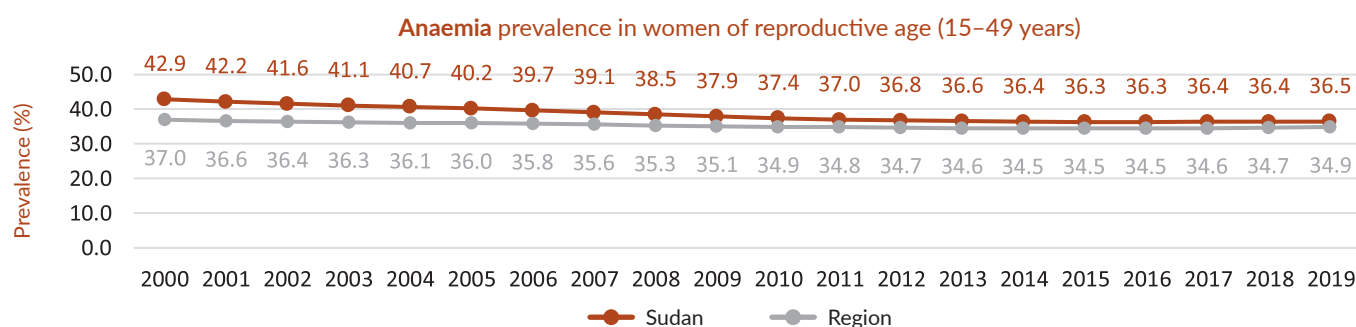
The prevalence of early initiation of breastfeeding (within one hour of birth) in Sudan decreased slightly from 73.2% to 68.7% between the years 2010 and 2014. During the same period, the prevalence of exclusive breastfeeding increased from 41% to 54.6%, after which it increased to 61.5% in 2018<sup>1</sup>, making Sudan one of the few countries in the Region to be on track to meet the WHO's global nutrition target of increasing the rate of exclusive breastfeeding in the first six months of life to at least 50%.



Sources: UNICEF, UNOCHA.

## Anaemia in women of reproductive age

The prevalence of anaemia in women of reproductive age (pregnant and non-pregnant women combined) in Sudan decreased slightly between 2000 (42.9%) and 2019 (36.5%), remaining very close to the regional average.



Source: WHO Global Health Observatory.

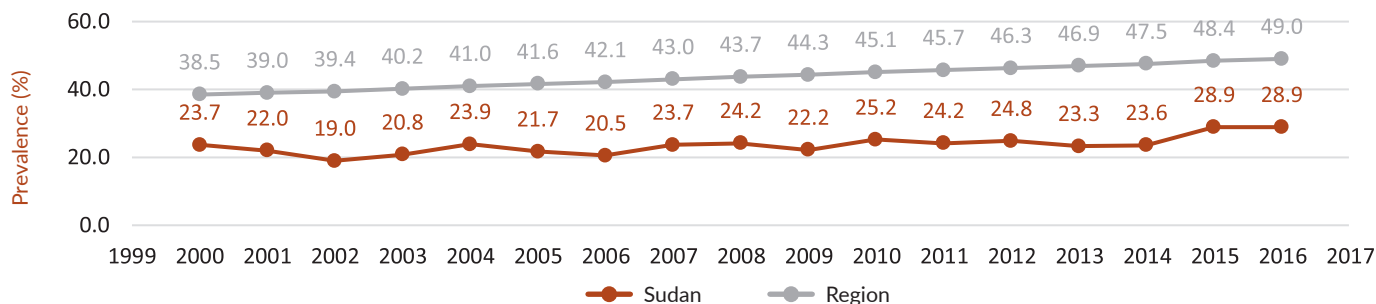
**Note:** The WHO global anaemia estimates are derived from a hierarchical Bayesian mixture model which uses all available data to make estimates for each country and year. In the model, estimates for each country are informed by data from that country itself, if available, and by data from other countries, especially those in the same region. Due to this method, the estimates may differ from official estimates of Member States. The methodology is described here: [https://cdn.who.int/media/docs/default-source/anaemia-in-women-and-children/hb-methods-for-gather.pdf?sfvrsn=da0fbb5f\\_11](https://cdn.who.int/media/docs/default-source/anaemia-in-women-and-children/hb-methods-for-gather.pdf?sfvrsn=da0fbb5f_11) and here: <https://pubmed.ncbi.nlm.nih.gov/25103581/>.

## Overweight and obesity

An overall increase in the prevalence of overweight among adults in Sudan was recorded between the years 2000 and 2016 (from 23.7 to 28.9%), although there has been some fluctuation in the trend. Moreover, the prevalence of overweight among children and adolescents aged 5-19 has risen overall, from 6.7% in 2000 to 12.4% in 2016; however, a slight decrease occurred in the years 2002, 2003 and 2006.

<sup>1</sup> Sudan - National Survey (S3M II) [website]. New York: United Nations Office for the Coordination of Humanitarian Affairs; 2020 (<https://data.humdata.org/dataset/simple-spatial-survey-method-s3m-ii-for-sudan-2018>, accessed on 19 July 2022).

**Overweight prevalence among adults, (age-standardized estimate)**



**Overweight prevalence among children and adolescents (5-19), (crude estimate)**



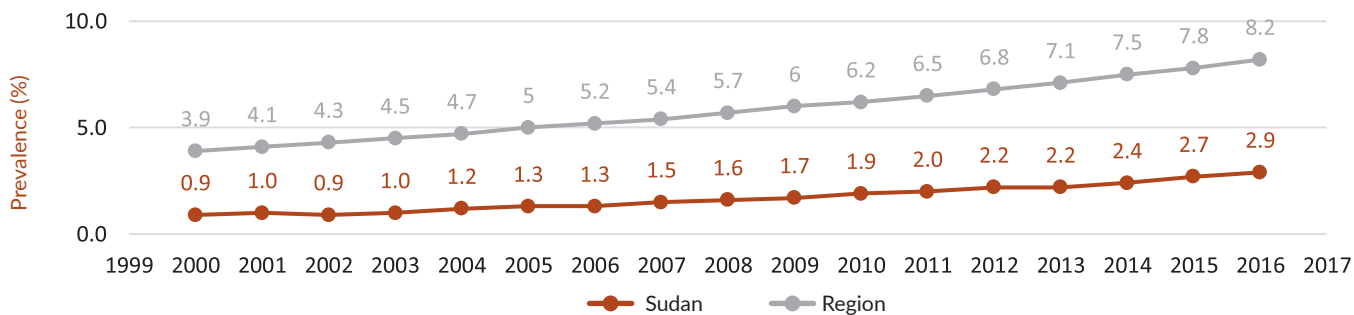
BMI = body mass index. (Overweight in adults is defined as a BMI of 25 or greater, and in children and adolescents as a BMI one or more standard deviations above the median. Obesity in adults is defined as a BMI of 30 or greater, and in children and adolescents as a BMI two or more standard deviations above the median.)

Despite the low incidence of obesity among adults in Sudan and the fluctuations in the trend, the prevalence of obesity has increased overall, from 5.8% to 8.6% between 2000 and 2016. Similarly, the prevalence of obesity among children and adolescents aged 5–19 has increased between 2000 and 2016 from 0.9% to 2.9%.

**Obesity prevalence among adults (BMI ≥ 30 ), (age-standardized estimate)**



**Obesity prevalence among children and adolescents (5-19) (BMI > +2 SD above the median), (crude estimate)**



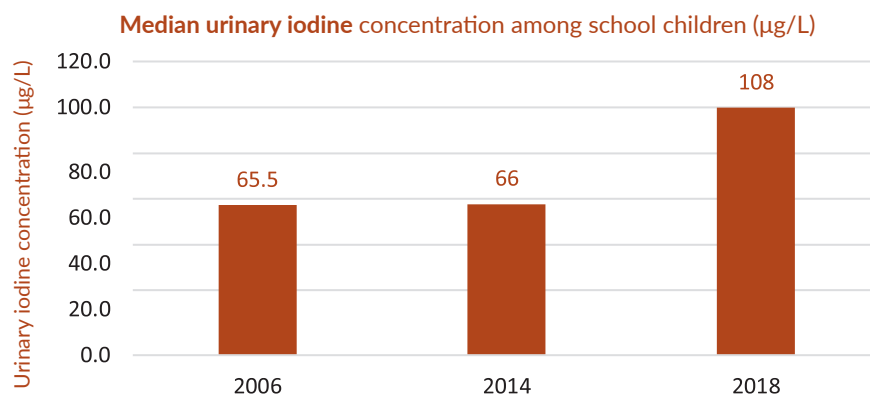
Sources: WHO Global Health Observatory.

**Note:** The WHO estimates for overweight and obesity are derived from a Bayesian hierarchical model that uses NCD-RisC database of population-based data. The model has a hierarchical structure in which estimates for each country and year are informed by its own data, if available, and by data from other years in the same country and from other countries, especially those in the same region with data for similar time periods. Due to this method, the estimates may differ from official estimates of Member States. The methodology is described here: <https://pubmed.ncbi.nlm.nih.gov/29029877/>.

## Micronutrient status

The prevalence of vitamin A deficiency, defined as retinol binding protein, was at an alarmingly high level in 2018 as it was estimated at 57.8% (the age of children or cut-off data is not available). The iodine intake in Sudan has been determined to be sufficient, defined as 100-299 µg/L, as the estimated median urinary iodine concentration (UIC) among school children was 108 µg/L in 2018, while it was insufficient earlier as the recorded UIC was 65.5 µg/L in 2006<sup>2</sup> and 66 µg/L in 2014.<sup>3</sup>

Source: WHO Micronutrients Database. Vitamin and Mineral Nutrition Information System.



## Nutrition policies and strategies

### Key national programmes

		Date
Development of national nutrition strategy or action plan <sup>a</sup>	✓	For 2014–2018
Plan of action for obesity prevention <sup>b</sup>	✗	
Strategy or plan of action on infant and young child feeding <sup>c</sup>	✓	2015–2024
Code of marketing of breast milk substitutes <sup>d</sup>	✓	Since 2005
Child growth monitoring <sup>b</sup>		1967
School feeding programme	✗	
Community-based management of acute malnutrition (CMAM) <sup>e</sup>	✓	For 2015–2018

Policies	Policy to reduce salt/sodium consumption	Tax on sugar sweetened beverages	Policy to limit trans-fatty acid intake	Policy to reduce the impact of marketing of food to children	Policy on salt iodization <sup>f</sup>	Front-of-pack nutrition labelling for food	Wheat flour fortification <sup>g</sup>
	✗	✗	✗	✗	✓	✗	✓

✓ = Policy/programme implemented      ✗ = Policy/programme not implemented

<sup>a</sup> National Nutrition Strategic Plan 2014–2025. Khartoum: Federal Ministry of Health of Sudan; 2014 (<http://faolex.fao.org/docs/pdf/sud194858.pdf>, accessed 19 July 2022).

<sup>b</sup> Programmes in Sudan: In: Global database on the Implementation of Nutrition Action [website]. Geneva: World Health Organization; 2022 (<https://extranet.who.int/nutrition/gina/en/programmes/1601>, accessed 6 July 2022).

<sup>c</sup> Humanitarian response. New York: United Nations Office for the Coordination of Humanitarian Affairs; 2015 (<https://www.humanitarianresponse.info/en/operations/sudan/document/national-iyf-strategy-2015-2024>, accessed 19 July 2022).

<sup>d</sup> Al-Jawaldeh A, Sayed G. Implementation of the International Code of Marketing of Breastmilk Substitutes in the Eastern Mediterranean Region. East Mediterr Health J. 2018(1):25–32. doi:10.26719/2018.24.1.25.

<sup>e</sup> National plan for scaling up of CMAM in Sudan 2015–2018. Khartoum: Ministry of Health of Sudan; 2015 ([https://www.enonline.net/attachments/2652/313\\_pic\\_for142\\_table1\\_row1image.pdf](https://www.enonline.net/attachments/2652/313_pic_for142_table1_row1image.pdf), accessed 19 July 2022).

<sup>f</sup> Doggui R, Al-Jawaldeh H, Al-Jawaldeh A. Trend of iodine status in the Eastern Mediterranean Region and impact of the universal salt iodization programs: a narrative review. Biol Trace Elem Res. 2020; 198, 390–402. doi.org/10.1007/s12011-020-02083-1.

<sup>g</sup> Al-Jawaldeh A. E. The regional assessment of the implementation of wheat flour fortification in the Eastern Mediterranean Region. Int J Sci Res Manag. 2019; 7(03), 28–37. doi:10.18535/ijssm/v6i3.ft01.

<sup>2</sup> Doggui R, Al-Jawaldeh H, Al-Jawaldeh A. Trend of iodine status in the Eastern Mediterranean Region and impact of the universal salt iodization programs: a narrative review. Biol Trace Elem Res. 2020; 198, 390–402. doi.org/10.1007/s12011-020-02083-1.

<sup>3</sup> Global Scorecard of Iodine Nutrition 2014–2015, Ottawa: Iodine Global Network; 2015 ([https://www.ign.org/cm\\_data/Scorecard\\_2015\\_August\\_26\\_new\\_intake.pdf](https://www.ign.org/cm_data/Scorecard_2015_August_26_new_intake.pdf), accessed 6 July 2022).

## Success stories

### Management of acute malnutrition and building nutrition capacity in Sudan

Malnutrition is a problem of public health significance in Sudan for the past three decades, with the most vulnerable groups being women and children under five years. Malnutrition is associated with poor physical and mental development in children and it reduces work performance in adults. The results of the S3M II survey in Sudan revealed that one out of three children is suffering from stunting (36.4%) and every seventh child under five is suffering from acute malnutrition (13.6%).

Almost 30 years since the last micronutrient survey was conducted in Sudan, the Federal Ministry of Health and WHO, with the support of the European Union, conducted such a survey within the S3M II survey. It was led by the National Nutrition Programme, the National Public Health Laboratory and WHO, with contributions from other United Nations agencies. The survey results will help in providing representative national and state level baseline data to understand the micronutrient situation in the country, and will provide results that can be used for advocacy purposes including enacting a mandatory national food fortification law in the country. WHO has supported Federal Ministry of Health in updating its National Nutrition Policy for 2021–2025. The policy was updated with technical contributions from other UN agencies and nutrition partners. WHO has supported the operationalization of the Scaling Up Nutrition (SUN) Civil Society Network in Sudan as part of its support of other SUN networks.

Approximately 15–20% of children under five with severe acute malnutrition are likely to develop medical complications and require inpatient treatment in stabilization centres. In 2020, 144 centres were functional nationwide to provide treatment for children with medical complications. These centres treated 38 399 children under the age of five. WHO supported the treatment of severe acute malnutrition with medical complications through capacity-building of staff, provision of medical and lab supplies and medical and nonmedical equipment, treatment guidelines, job aids, IEC materials and rehabilitation to improve the quality of inpatient care in the country.

WHO also supported nutrition services in the newly accessible areas (Laiba Stabilization centre in East Jabel Mara) in South Darfur. A stabilization centre was established based on the urgent need identified by the Government and nutrition sector to provide nutrition and life-saving support to malnourished children under five. No other partner was active in the area, and WHO supported the area in the establishment of the centre. On an annual basis, the centre supports the needs of more than 1300 children with severe acute malnutrition with medical complications via inpatient care at the centres. WHO and the Federal Ministry of Health have jointly worked together in strengthening the nutrition surveillance system using the existing nutrition data, and bulletins are being produced on a regular basis. In 2022, WHO provided medical and laboratory supplies to 48 stabilization centres and renovated nine stabilization centres in various states.



Nutrition Services, In East Jabel Marra, South Darfur

Ministry of Health Website: <http://www.fmoh.gov.sd/>

WHO-EM/NUT/307/E