

Overweight and obesity



Field of action 1: Reducing the risk of diabetes



Children and adolescents

Background

Overweight denotes a condition in which body weight is above normal for a given body size. Severe overweight is referred to as obesity [1]. In children and adolescents, obesity is associated with a higher likelihood of developing conditions such as type 2 diabetes in adulthood [2].

Key messages

- ▶ In 2015, about one in six children and adolescents is affected by overweight (including obesity).
- ▶ The prevalence of overweight and obesity increases during the transition from childhood to adolescence.
- ▶ Overweight (including obesity) is more common among children and adolescents in the lower education group.

Figure 1: Temporal comparison of the prevalence of overweight (including obesity) and obesity in % among children and adolescents (2 – 17 years) by sex between 2004 and 2015.

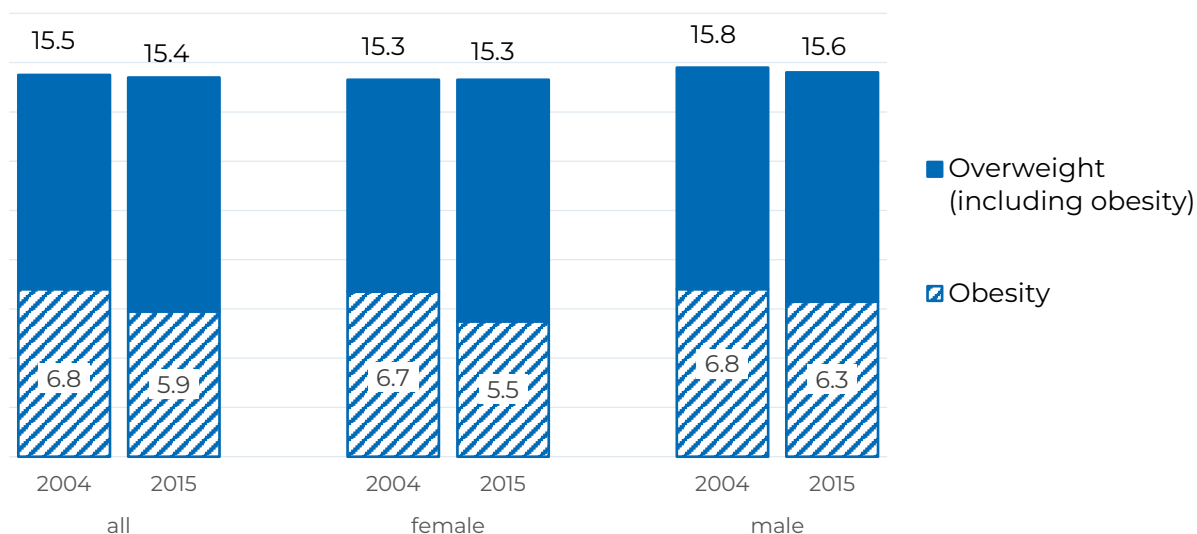


Figure 2: Prevalence of overweight (including obesity) and obesity in % among children and adolescents (2 – 17 years) in 2015 by age and sex.

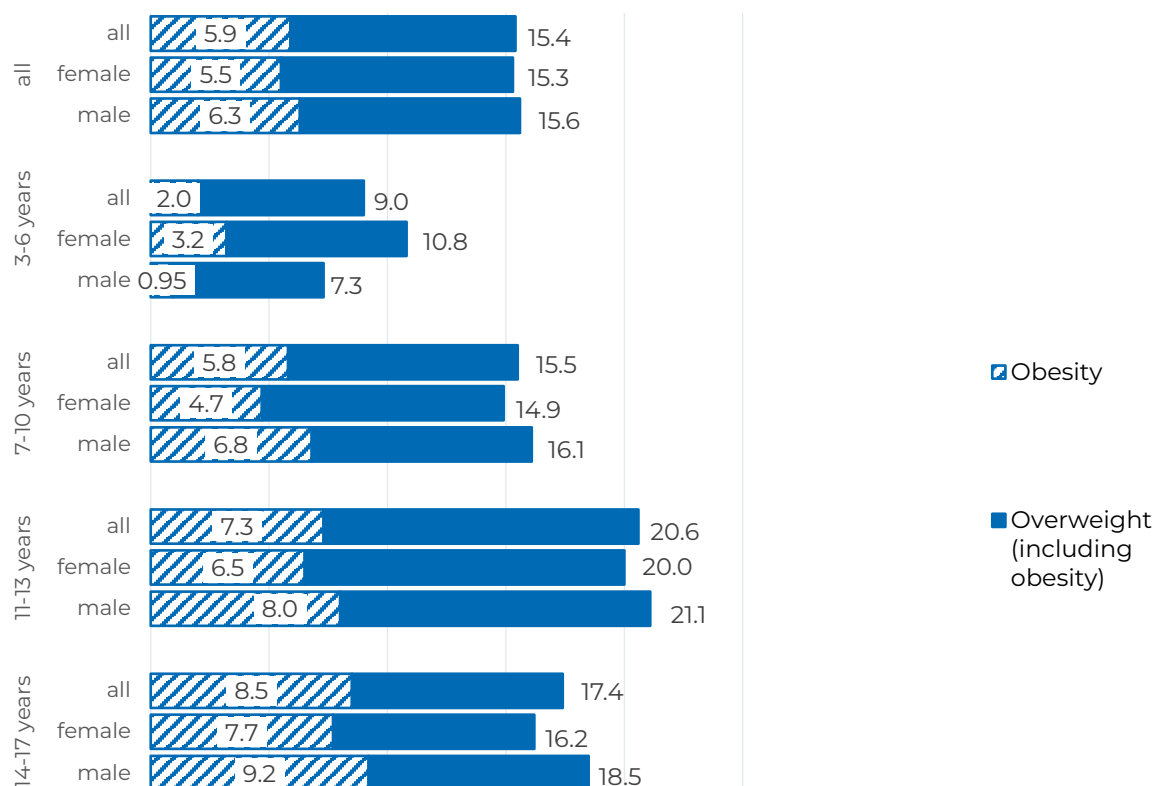


Figure 3: Prevalence of overweight (including obesity) and obesity in % among children and adolescents (2 – 17 years) in 2015 by education group and sex.

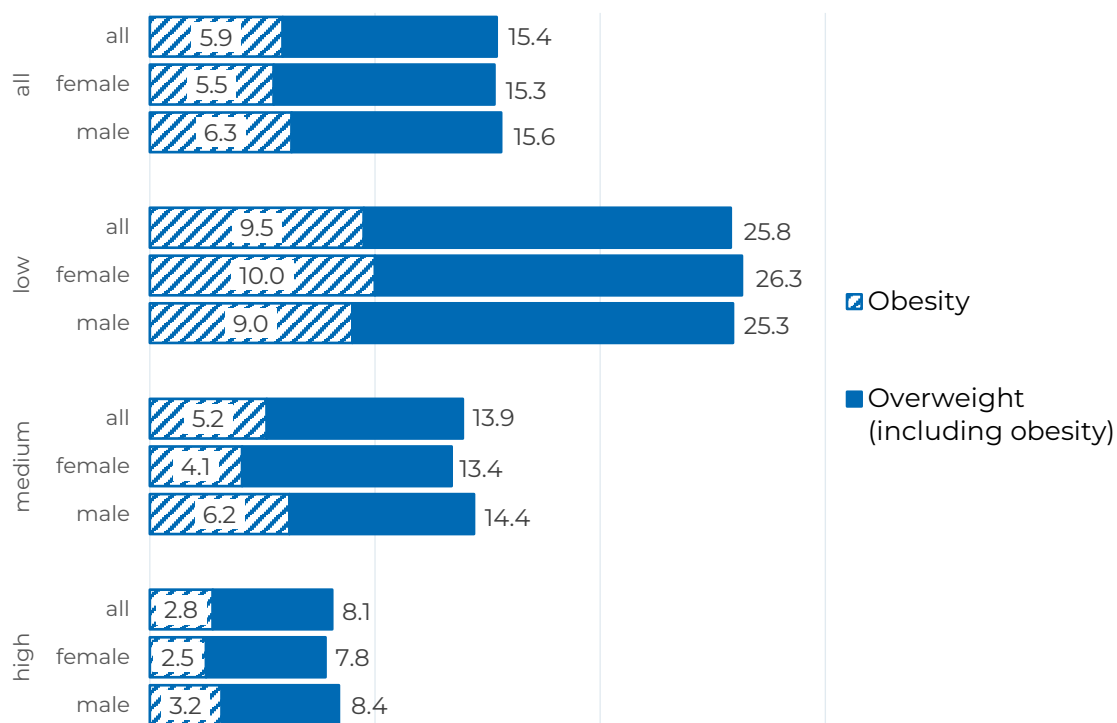
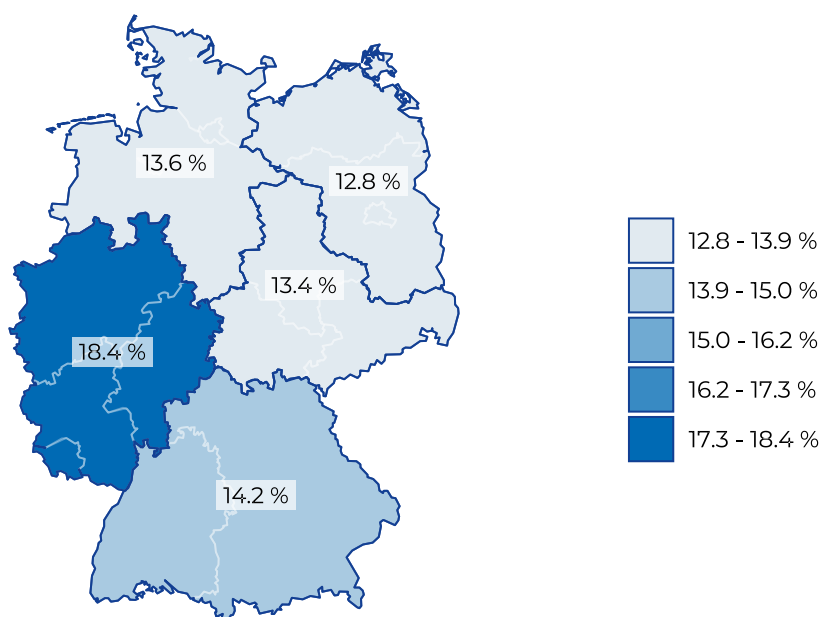


Figure 4: Prevalence of overweight (including obesity) and obesity in % among children and adolescents (2 – 17 years) in 2010 by region (north east, north west, middle east, middle west, south).



Results

In 2015, the prevalence of overweight and obesity in children and adolescents was 15.4% (girls: 15.3%; boys: 15.6%). During the transition from childhood to adolescence, the prevalence of overweight and obesity increases significantly, from 9.0% among 3- to 6-year-olds and 15.5% among 7- to 10-year-olds to 20.6% among 11- to 13-year-olds and 17.4% among 14- to 17-year-olds. There were no differences in the prevalence of overweight and obesity by place of residence. However, the data indicate a pronounced educational gradient: children and adolescents in the low education group are more often affected by overweight and obesity (25.8%) than their peers in the medium education group (13.9%), who, in turn, are more often affected by overweight and obesity than children and adolescents in the high education group (8.1%). Compared to 2004, the proportion of children and adolescents with overweight and obesity has stagnated at a high level.

Conclusion

In Germany, around one in six children and adolescents is affected by overweight or obesity [3, 4]. As overweight and obesity are associated with secondary diseases such as type 2 diabetes in adulthood, early preventive measures are necessary to prevent the development of overweight and obesity at a young age [5].

Methodology and data sources

Definition

In Germany, overweight and obesity are defined using the Kromeyer-Hauschild percentile curves. As such, children aged 2 or above are classified as overweight or obese if their body mass index (BMI) is above the 90th or 97th percentile of the reference population, taking age and sex into account [6, 7].

Operationalisation

BMI was calculated using the measurements of body weight and height taken from the examination of the participating children and adolescents. BMI is calculated as body weight (kg) divided by height squared (m^2).

Reference population

Children and adolescents with permanent residency in Germany, aged 2 – 17 years.

Data source

Nationwide interview and examination surveys 2003 – 2006 (German Health Interview and Examination Survey for Children and Adolescents, KiGGS baseline study) and 2014 – 2017 (KiGGS Wave 2) of the Robert Koch Institute (RKI). These surveys are based on a sample taken from registry offices, and involved a medical interview (parental interview) and examination.

Number of cases

- ▶ KiGGS baseline study: $n = 17,641$
- ▶ KiGGS Wave 2 (cross-sectional survey): $n = 15,023$ (of which 3,567 with examination)

Calculation

- ▶ **Description:** For the indicator, the figures for total, girls and boys are provided and stratified by age group, residential area and parental education as far as the number of cases available for the figure is ≥ 5 and the statistical uncertainty in the estimate of the indicator is not considered too large (a coefficient of variation $\leq 33.5\%$).
- ▶ **Stratification:** The geographical classification of the residence of the participating person was carried out by region (north east, north west, middle east, middle west and south). Educational status of the parents was determined using the Comparative Analysis of Social Mobility in Industrial Nations (CASMIN) index, which takes information on both school and vocational training into account and allows a categorisation into a low, medium and high education group.
- ▶ **Weighting:** In order to correct for deviations from the underlying reference population due to different participation rates or sampling probabilities, weighting factors were used when calculating the indicator in the KiGGS baseline survey and KiGGS Wave 2. These adjust the surveys to the population structure of the reference population with regard to sex, age, federal state and German citizenship (yes/no) as of 31 December 2004 (baseline survey) and 31 December 2015 (wave 2) as well as to the distribution of parental education in the microcensus 2005 (baseline survey) and 2013 (wave 2).

Data quality

The RKI surveys for children and adolescents provide representative results for the 0 to 17-year-old resident population in Germany. Various measures (including oversampling of children and adolescents without German citizenship), enabled migrants to be included in the KiGGS sample approximately in line with their proportion of the population. Nevertheless, further efforts to include children and adolescents are necessary in the future, especially for those with little knowledge of German.

Data download

Robert Koch Institute. (2024). Results of the National Diabetes Surveillance 2015 – 2024 [Data set]. Zenodo. <https://doi.org/10.5281/zenodo.14935276> (in German)

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External links

- ▶ Robert Koch Institute. Information on the study German Health Interview and Examination Survey for Children and Adolescents (KiGGS) 2024 [cited 30.01.2025]. Available from: <http://www.rki.de/kiggs>.

Imprint

Editor

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National Diabetes Surveillance · Nordufer 20 · 13353 Berlin

Citation

National Diabetes Surveillance at the Robert Koch Institute (2024)
Results of the Diabetes Surveillance 2015 – 2024.
Overweight and obesity– Children and adolescents.
Robert Koch Institute, Berlin. doi: 10.25646/12270.

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Funding

The project Developing National Diabetes Surveillance at the Robert Koch Institute with expansion to an NCD Surveillance (2015 – 2024) was funded by the Federal Ministry of Health (funding references: GE20150323, GE20190305, 2522DIA700, 2523DIA002).

Supported by:



on the basis of a decision
by the German Bundestag