

Smoking



Field of action 1: Reducing the risk of diabetes

Adults

Background

Smoking cigarettes and other tobacco products are one of the most significant risk factors for non-communicable diseases, in particular for lung and cardiovascular diseases as well as for type 2 diabetes [1].

Key messages

- ▶ In 2019, nearly 30% of adults in Germany report that they smoke, women less frequently than men.
- ▶ The prevalence of smoking is significantly higher in the low education and medium education groups than in the high education group.
- ▶ Reducing the prevalence of smoking remains a high priority for public health.

Figure 1: Temporal development of the prevalence of smoking among adults in % by sex between 2003 und 2019 (age-standardised).

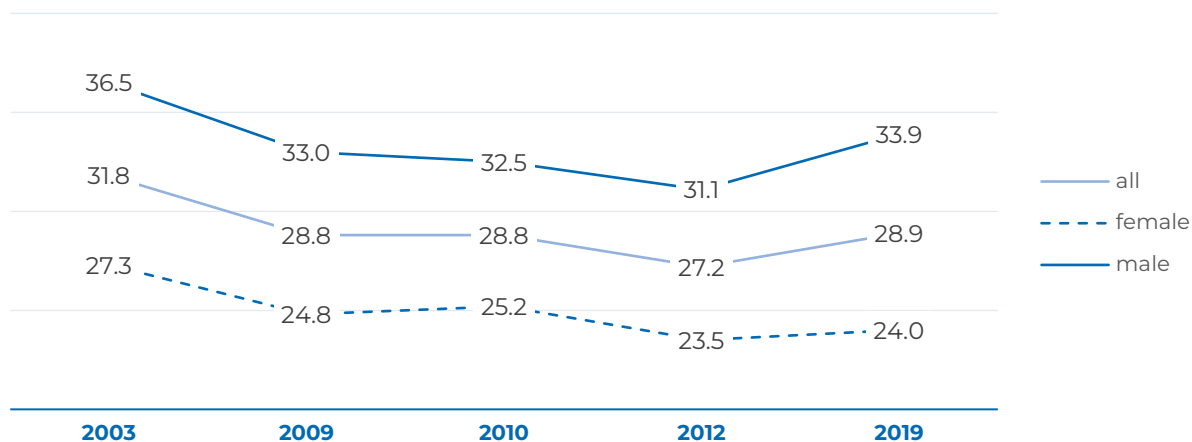


Figure 2: Prevalence of smoking among adults in % by age and sex in 2019.

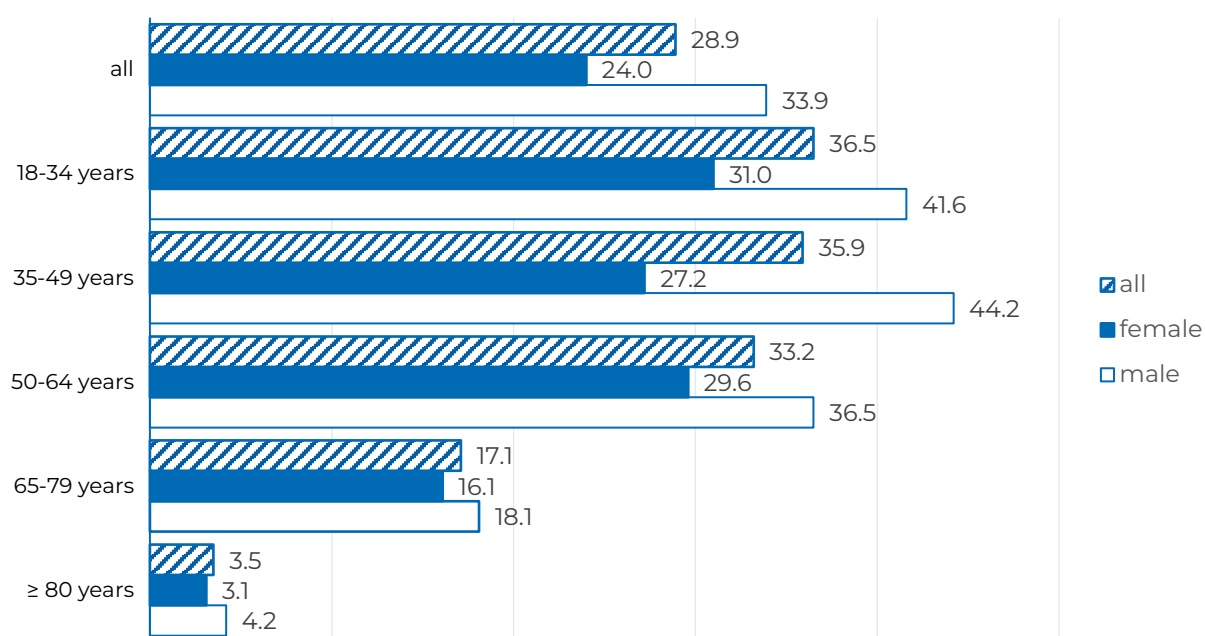
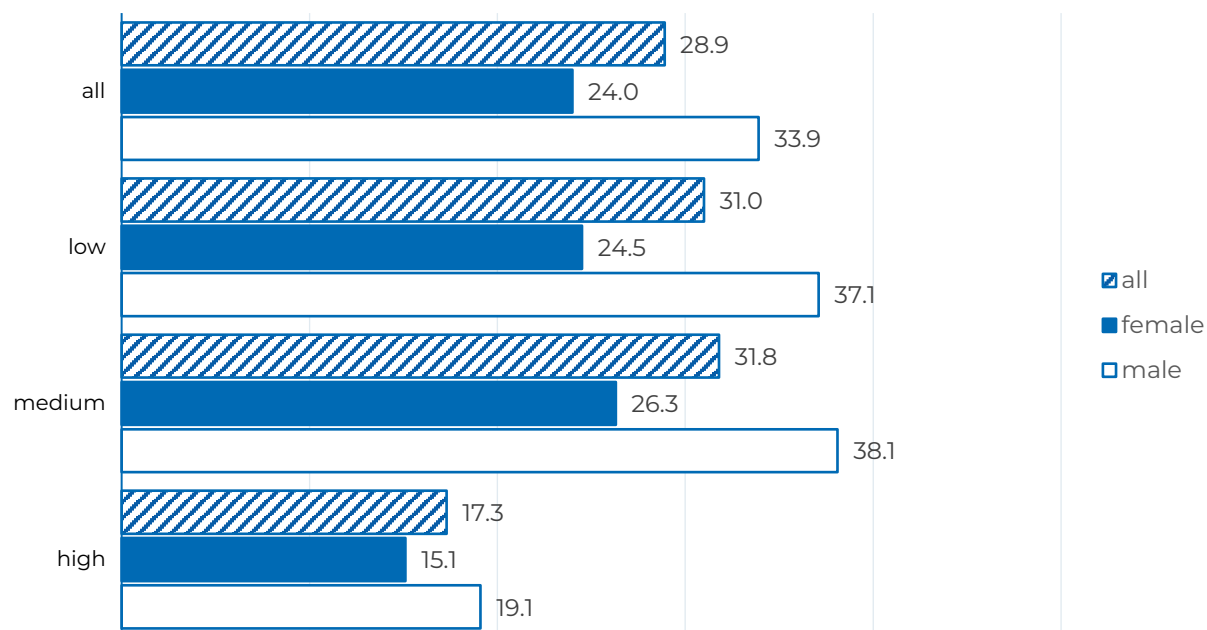
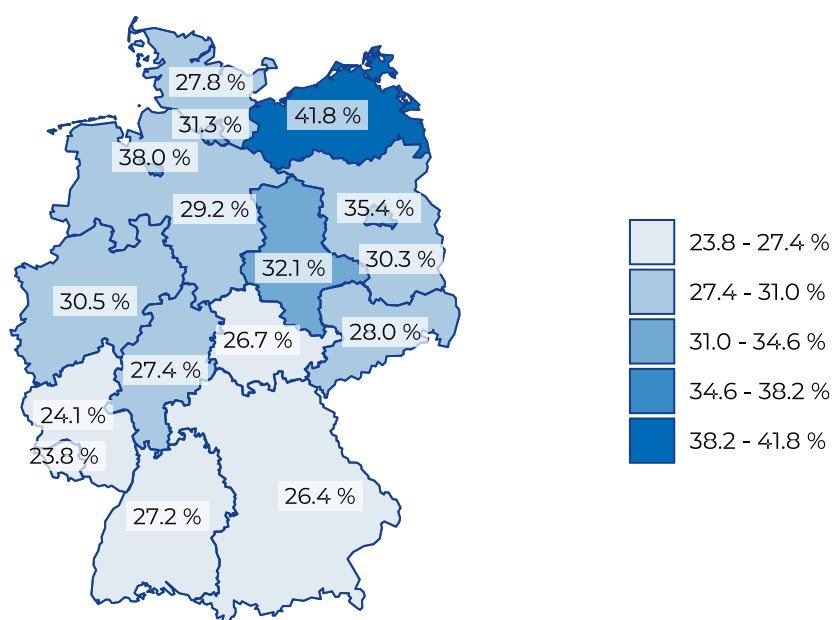


Figure 3: Prevalence of smoking among adults in % by education group and sex in 2019.**Figure 4:** Prevalence of smoking among adults in % by federal state in 2019.

Results

In 2019, the prevalence of smoking in the adult population is 28.9% (women: 24.0%; men: 33.9%). The prevalence of smoking is significantly higher for younger and middle-aged people and decreases with age. More adults in the low-education (31.0%) and medium-education groups (31.8%) smoke than in the high-education group (17.3%). Compared to the total prevalence in Germany, Mecklenburg-Western Pomerania (41.8 %) and Berlin (35.4%) show higher prevalences of smoking, whereas Saarland (23.8%), Rhineland-Palatinate (24.1%) und Bavaria (26.4%) show lower prevalences. Between 2003 and 2019, the prevalence of smoking among adults has decreased.

Conclusion

Despite a decrease in smoking prevalence in Germany in recent years <https://doi.org/10.1093/ntr/ntx087> [2, 3] nearly 30% of adults still report that they smoke daily or occasionally. Further efforts in tobacco prevention, smoking cessation and tobacco control policies are therefore vital public health measures that can reduce the risk of diabetes and other non-communicable diseases. Such measures should consider new forms of nicotine consumption such as e-cigarettes and (e-)shishas.

Methodology and data sources

Definition

The indicator smoking is defined as the proportion of people in the population who smoke tobacco products occasionally or daily.

Operationalisation

Assessment of smoking behaviour is based on self-reported data. People who smoke daily or occasionally are considered smokers:

- ▶ *'Do you currently smoke – even if only occasionally?'* (Telephone Health Survey 2003 (GSTel03), German Health Update (GEDA) 2009, GEDA 2010, GEDA 2012)
 - Yes, every day
 - Yes, occasionally
 - No, not any more
 - Have never smoked
- ▶ *'Do you smoke any tobacco products, including heated tobacco products? Please exclude electronic cigarettes or similar electronic devices.'* (German Health Update/European Health Interview Survey 2019/2020 (GEDA 2019/2020-EHIS))
 - Yes, every day
 - Yes, occasionally
 - No, not any more
 - I have never smoked

Reference population

German-speaking resident population in Germany, aged 18 years and over.

Data source

Nationwide interview surveys 2002/03 (GSTel03), 2008/09 (GEDA 2009), 2009/2010 (GEDA 2010), 2012/2013 (GEDA 2012) of the Robert Koch Institute (RKI) based on telephone sample (land line) and a telephone-based questionnaire as well as 2019/20 (GEDA 2019/2020-EHIS) based on telephone sample (landline and mobile phone) and a telephone-based questionnaire [3, 4].

Number of cases

- ▶ GSTel03: n = 8,318
- ▶ GEDA 2009: n = 21,262
- ▶ GEDA 2010: n = 22,050
- ▶ GEDA 2012: n = 19,294
- ▶ GEDA 2019/20-EHIS: n = 22,708

Calculation

- ▶ **Description:** For the indicator, the figures for total, women and men are provided and are stratified by age group, residential area and 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 federal state. Educational status 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 individual surveys. These adjust the surveys to the population structure of the reference population with regard to sex, age and federal state as of 31 December 2002 (GSTel03), 31 December 2007 (GEDA 2009), 31 December 2008 (GEDA 2010) and 31 December 2011 (GEDA 2012) as well as with regard to sex, age, federal state, district type as of 31 December 2019 (GEDA 2019/2020-EHIS) as well as to the distribution of education levels in the microcensus 2001 (GSTel03), 2007 (GEDA 2009), 2008 (GEDA 2010), 2011 (GEDA 2012) and 2017 (GEDA 2019/2020-EHIS).
- ▶ **Age standardisation:** Direct age standardisation to the adult resident population in Germany as of 31 December 2019.

Data quality

RKI interview surveys provide representative results for the resident population of Germany aged 18 years and over. As is the case in all population-based studies, underrepresentation of the seriously ill and those living in institutions must be assumed. Furthermore, all information is self-reported and not based on personal interviews conducted by study physicians. Comparisons of findings between the most current GEDA wave and previous waves should be interpreted with caution due to differences in methodology.

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)

References

1. U.S. Department of Health and Human Services. The Health Consequences of Smoking: 50 Years of Progress. A Report of the Surgeon General. Atlanta, GA: U.S.; 2014. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK179276/>.
2. Hoebel J, Kuntz B, Kroll LE, Finger JD, Zeiher J, Lange C, et al. Trends in Absolute and Relative Educational Inequalities in Adult Smoking Since the Early 2000s: The Case of Germany. *Nicotine Tob Res.* 2017;20(3):295-302. doi: 10.1093/ntr/ntx087.
3. Lampert T, Kroll LE, Kuntz B, Hoebel J. Health inequalities in Germany and in international comparison: trends and developments over time. *J Health Monit.* 2018;3(S1):2-24. doi: 10.17886/RKI-GBE-2018-036.
4. Starker A, Kuhnert R, Hoebel J, Richter A. Smoking behaviour and passive smoke exposure of adults – Results from GEDA 2019/2020-EHIS. *J Health Monit.* 2022(3):6--20. doi: 10.25646/10291.

External links

- ▶ Robert Koch Institute. Information on the study German Health Update (GEDA) 2024 [cited 30.01.2025]. Available from: <https://www.rki.de/EN/Topics/Noncommunicable-diseases/Health-surveys/Studies/geda-german-health-update.html?nn=16782096>.

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