DIABETES Initiality surveillance

ROBERT KOCH INSTITUT

Age at diagnosis



Background

A latency period of several years is assumed between the onset and diagnosis of diabetes, especially type 2 diabetes. In the case of a decreasing trend, the average age at which diabetes is diagnosed in a population can indicate an earlier diagnosis on the one hand, but also an earlier onset of the disease on the other hand. While earlier onset, particularly of type 2 diabetes, may be associated with increased excess mortality [1], early detection of diabetes enables appropriate treatment of diabetes to be initiated.

Key messages

- In 2021, the average age at diagnosis of diabetes for people with known diabetes is around 53 years in Germany.
- ▶ The average age at diagnosis of diabetes is higher in women than in men.
- ► The average age at diagnosis of diabetes is higher among persons in the low education group than among persons in the medium or high education group.



Figure 1: Mean age at diagnosis of diabetes for people with known diabetes in 2021 by age and sex.

Figure 2: Mean age at diagnosis of diabetes for people with known diabetes in 2021 by education group and sex.



Results

In 2021, the average age at diagnosis of diabetes for people with known diabetes was 52.9 years and was higher for women (55.1 years) than for men (51.0 years). People in the low education group (55.3 years) were on average older at the time of diagnosing diabetes than people in the medium or high education group (50.4 years). There are no regional differences in average age at diagnosis of diabetes.

Conclusion

In Germany, the average age at diagnosis of diabetes is around 53 years and is higher in women than in men. This gender difference in average age at diagnosis of diabetes was also observed in a previous study for the year 2015 [2]. A temporal comparison with results from a RKI study based on data from the year 2010 and related to the age range 18 to 79 years [3] shows no differences in the average age of diagnosis among women of the same age range in 2021. In contrast, the average age at diagnosis has declined in each age group among men. The decreasing age at diagnosis over time in men could be associated with an earlier onset of the disease or with an earlier diagnosis. The observed lower age at diagnosis among people in the high education group may be associated with better risk perception or greater health awareness.

Methodology and data sources

Definition

The indicator age at diagnosis is defined as the average age at which a physician-diagnosis of diabetes is made among people with known diabetes (including gestational diabetes).

Operationalisation

Self-reported information on the following question by people with known diabetes:

- 'When were you first diagnosed with diabetes by a physician?'
 - ... years ago
 - At ... years-of-age
 - In [year]
 - I do not know

Reference population

German-speaking resident population in Germany with known diabetes aged 18 years and older

Data source

Nationwide interview survey German Health Update (GEDA) 2021/2022-Diabetes of the Robert Koch Institute (RKI) among people with known diabetes based on a special screening procedure of the target group of people with known diabetes (landline and mobile numbers) and based on telephone interview.

Number of cases

For the indicator age at diagnosis, data from people with known diabetes aged 18 years and older are evaluated:

GEDA 2021/2022-Diabetes: n = 1,503

Calculation

- ▶ Description: For the indicator, the figures for total, women and men, as well as stratified according to age group, residential area and level of education are given as long as the number of cases for the figure is ≥ 5 and the statistical uncertainty in estimating the figure is not considered too great (i.e. coefficient of variation ≤ 33.5%).
- Stratification: The geographical classification of the residence of the participating person was carried out by east and west (east = former East Germany, including all of Berlin; west = former West Germany, not including West Berlin). Educational status was determined using the Comparative Analysis of Social Mobility in Industrial Nations (CASMIN) index, which takes information on both schooling and vocational training into account and allows a categorisation into a low, medium and high education group.
- Weighting: In order to correct deviations in the surveys from the respective underlying reference population due to different willingness to participate or sampling probability, weighting factors were used when calculating the indicator. This adjusts the GEDA 2021/2022-Diabetes survey to the population structure of the reference population with regard to gender, age and education as of December 31, 2019. The distribution structure of people with diagnosed diabetes from the nationwide RKI survey (GEDA 2019/2020-European Health Interview Survey (EHIS)) was used for the adjustment, since the data from the population statistics of the Federal Statistical Office do not allow any conclusions to be drawn about the group of people with diagnosed diabetes in the German-speaking resident population aged 18 and over.

Data quality

The RKI survey GEDA 2021/2022-Diabetes provides representative results for people with known diabetes from the German-speaking resident population of Germany aged 18 years and over. As with all population-based studies, it can be assumed that seriously ill and institutionalised people are underrepresented. Furthermore, all information is based on self-report. A memory distortion (recall bias) is possible for the self-reported age at the time of diabetes diagnosis. Temporal comparisons with earlier RKI surveys are limited due to methodological differences.

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 Update (GEDA) 2021/2022-Diabetes 2022 [cited 30.01.2025]. Available from: <u>https://www.rki.de/geda21-diabetes</u>
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