DIABETES
■▪▪■ surveillance

ROBERT KOCH INSTITUT

Self-assessed quality of care

Field of action 2:
Improving the early detection and treatment of diabetes
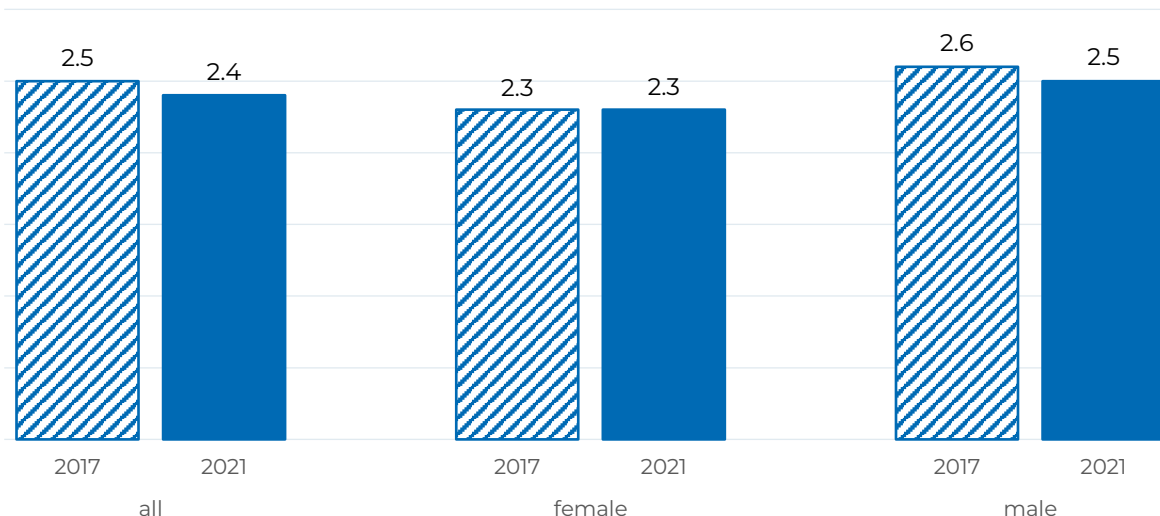
Adults

Background

In addition to the assessment of the quality of care of chronic diseases on the basis of objective data (e.g. medication or laboratory values), the assessment of the quality of care from the perspective of the person affected is becoming increasingly important and is considered as a significant indicator in the description of the quality of care [1]. Care that is assessed as good by the affected person is considered to be favourable with regard to better self-management and a lower occurrence of complications. Epidemiological studies on self-assessed quality of care in adults with diabetes are so far hardly available in Germany.

Key messages

▸ In Germany, people with diabetes assess the quality of care as moderate.

▸ Women with diabetes rate the quality of care lower than men with diabetes do.

▸ There are no substantial regional or educational differences in the self-assessed quality of care.

Figure 1: Temporal comparison of the mean sum score of the PACIC-DSF among adults (45 years and older) with known diabetes by sex between 2017 and 2021 (age-standardised).

Figure 2: Mean sum score of the PACIC-DSF among adults (45 years and older) with known diabetes by age and sex in 2021.
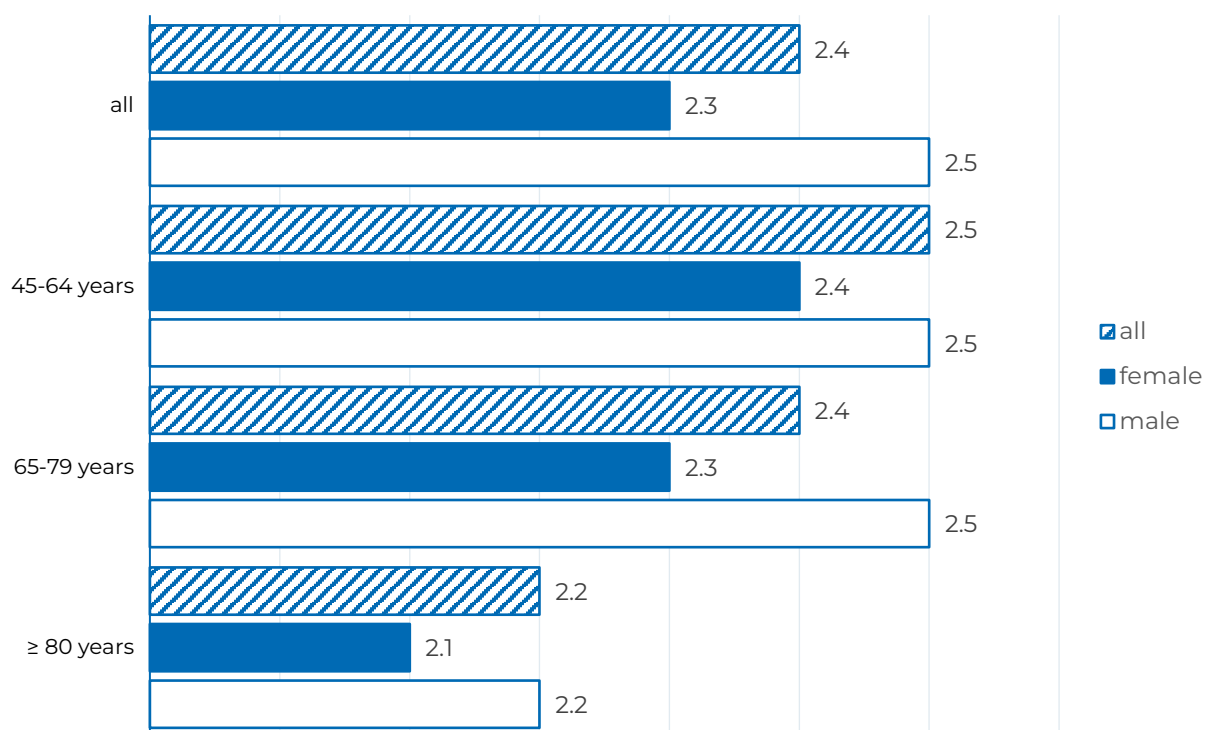
Figure 3: Mean sum score of the PACIC-DSF among adults (45 years and older) with known diabetes by education group and sex in 2021.
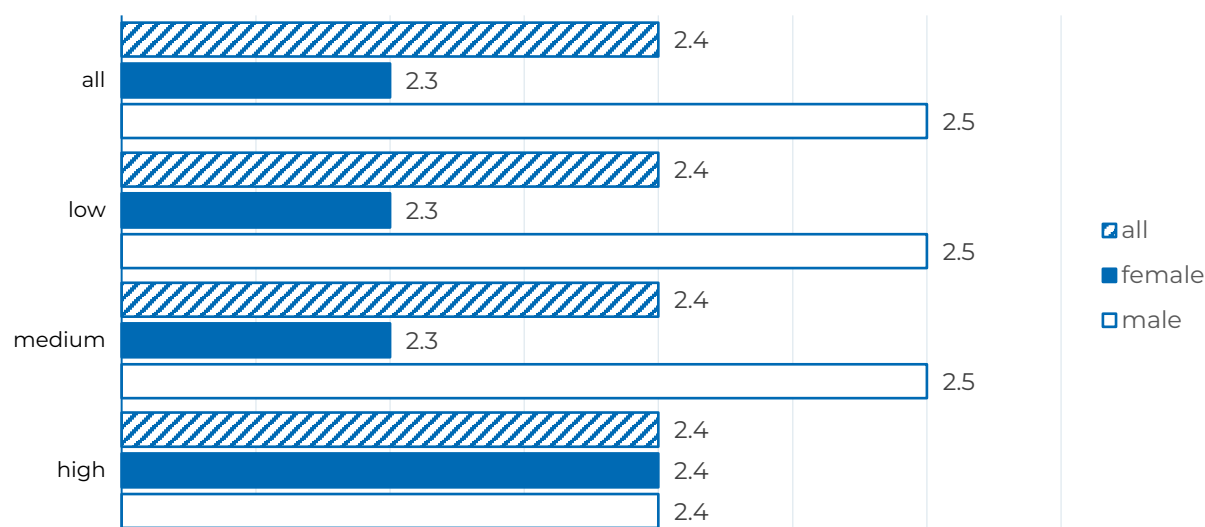
Results

In 2021, the self-assessed quality of care for people aged 45 years and older with known diabetes in the last 12 months is in the middle range with 2.38 on a scale of 1 to 5 (with higher values indicating better ratings for quality of care) and is lower for women than for men (2.30 vs. 2.46). Lower ratings of quality of care are associated with increasing age. The mean sum score for people aged 45 to 64 years is 2.48, but 2.16 for people aged 80 years or above. No substantial differences were identified in self-assessed quality of care by education and by region. Between 2017 and 2021, there are no significant differences overall in the self-assessed quality of care for diabetes.

Conclusion

People with diabetes in Germany rate the quality of care that they receive as moderate. It could be useful to improve education about the condition and its treatment as well as to more actively involve people who are affected by diabetes when dealing with the condition. This could help improve people's perception of the quality of care that they receive.

Methodology and data sources

Definition
The indicator self-assessed quality of care describes subjectively perceived quality of care and was determined using an adapted German-language version of the Patient Assessment of Chronic Illness Care-DAWN Short Form (PACIC-DSF). Figures are given as a mean value of the PACIC-DSF sum score.

Operationalisation

▶ Preliminary question: *'What kind of help have you received from your treatment team for your diabetes management within the past 12 months?'*

▶ Nine questions about help regarding medication, treatment plan and goals, diabetes management and support from the social environment and being encouraged to visit self-help groups or diabetes education programs, as well as about follow-up contact after a visit to a medical practice and satisfaction with the way in which treatment was organised.

▶ Answer options:
  ■ 1 = never
  ■ 2 = rarely
  ■ 3 = sometimes
  ■ 4 = often
  ■ 5 = always

▶ **Self-assessed quality of care:** The PACIC-DSF sum score is the sum of the scores gained from the answers provided to the nine questions divided by 9. The score has a scale ranging from 1 to 5, and higher values indicate higher levels of satisfaction with quality of care.

Reference population

People with known diabetes in the German-speaking resident population of Germany, aged 45 years and over.

Data source

2017: Nationwide study 'Disease knowledge and information needs – Diabetes mellitus (2017)' of German-speaking residents in Germany aged 18 years and over of the Robert Koch Institute (RKI). The study consisted of two parts (a representative part and a sample of the population with diabetes) and was based on a telephone sample (using landline and mobile numbers) and a telephone-based questionnaire [2]. The diabetes sample was collected using a special screening process that focused on the target group 'people with known diabetes aged 18 years and over'.
2021: Nationwide RKI survey 'German Health Update (GEDA) 2021/2022-Diabetes' based on a special screening process that focused on the target group 'people with known diabetes aged 18 years and older' [3].

Number of cases

2017:

▶ Diabetes sample: n = 1,479 (including 263 people with known diabetes from the representative part),

▶ among them 1,254 people aged 45 years or over with known diabetes during the past 12 months as well as complete information on the PACIC-DSF score.

2021:

▶ GEDA 2021/2022-Diabetes: n = 1,503,

▶ among them 1,260 people aged 45 years or over with known diabetes during the past 12 months as well as complete information on the PACIC-DSF sum score

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 ≤ 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 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:** A weighting factor was used to correct for deviations from the underlying reference population due to different participation rates or sampling probabilities. It adjusts the survey sample to the population structure of the reference population in terms of sex, age and education as of 31 December 2016 (study 'Disease knowledge and information needs – Diabetes mellitus (2017)') and 31 December 2019 (GEDA 2021/2022-Diabetes). The distribution structure of people diagnosed with diabetes from the two nationwide RKI surveys German Health Update 2012 (GEDA 2012) and 2019 (GEDA 2019/2020-EHIS) were used to calculate the weighting factor, since data from the population statistics provided by the Federal Statistical Office do not allow conclusions about people diagnosed with diabetes in the German-speaking resident population aged 18 years and over.
- ► **Age standardisation:** Age standardisation was carried out with the reference population of adult residents in Germany as of 31 December 2019.

Data quality

The RKI surveys 'Disease knowledge and informational needs – Diabetes mellitus' (2017) and GEDA 2021/2022-Diabetes provide representative results about people with known diabetes from the German-speaking resident population of Germany aged 18 years and older. As with all population-based studies, it can be assumed that the study underrepresents people with serious illnesses and those currently in institutions. In addition, the survey data is based on information provided by the respondents. Comparisons of findings to previous RKI surveys are limited 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. Nicolucci A, Kovacs Burns K, Holt RIG, Comaschi M, Hermanns N, Ishii H, et al. Diabetes Attitudes, Wishes and Needs second study (DAWN2™): Cross-national benchmarking of diabetes-related psychosocial outcomes for people with diabetes. Diabet Med. 2013;30(7):767-77. doi: 10.1111/dme.12245.
2. Paprott R, Heidemann C, Stühmann LM, Baumert J, Du Y, Hansen S, et al. First results from the study 'Disease knowledge and information needs - Diabetes mellitus (2017)'. J Health Monit. 2018;3(S3):22-60. doi: 10.17886/RKI-GBE-2018-064.
3. Heidemann C, Du Y, Mauz E, Walther L, Peitz D, Müller A, et al. Healthcare and health situation of adults with type 2 diabetes in Germany: The study GEDA 2021/2022-Diabetes. J Health Monit. 2024;9(2):e 12128. doi: 10.25646/12128.

External links

▸ Baumert J, Paprott R, Du Y, Heidemann C, Scheidt-Nave C. Self-assessed quality of care among adults with diagnosed diabetes in Germany. J Health Monit. 2021;6(2):36-42. http://dx.doi.org/10.25646/8329.

▸ Tuncer O, Du Y, Baumert J, Reitzle L, Heidemann C. Update zur Nationalen Diabetes-Surveillance. Diabetologie. 2023;19(5):561-70. https://doi.org/10.1007/s11428-023-01069-6.

▸ Buchmann M, Du Y, Baumert J, Krause L, Weise S, Heidemann C. Selbsteingeschätzte Versorgungsqualität des Diabetes. Diabetologie. 2025;21(1):27-36. https://doi.org/10.1007/s11428-024-01255-0.

▸ Robert Koch Institute. Information on the study German Health Update (GEDA) 2021/2022-Diabetes 2022 [cited 30.01.2025]. Available from: https://www.rki.de/geda21-diabetes.

Imprint

Supported by:

Federal Ministry of Health

on the basis of a decision by the German Bundestag