

English version of "Sozioökonomischer Status und Gesundheit. Ergebnisse der Studie zur Gesundheit Erwachsener in Deutschland (DEGS1)"
 Bundesgesundheitsbl 2013 · 56:814–821
 DOI 10.1007/s00103-013-1695-4
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Socioeconomic status and health

Results of the German Health Interview and Examination Survey for Adults (DEGS1)

Introduction

In the course of the last 30 years, numerous empirical studies have proven that even in a relatively rich country such as Germany, there is a close connection between the socioeconomic status (SES) of a person and his or her health [1, 2, 3, 4]. The SES reflects a person's individual position in the social hierarchy and is usually determined via information on educational attainment, occupational status and income situation [5, 6]. The general tenor of the results of these studies is that persons with a lower SES have a higher risk of contracting many chronic diseases and complaints than persons with a higher SES [7, 8, 9]. They also tend to have a worse self-rated health status and to have health-related problems more often when coping with everyday life [10, 11]. Socioeconomic differences can also be seen in the distribution of behaviour-correlated risk factors such as smoking, physical inactivity, overweight, hypertension or fat metabolism disorders [12, 13, 14]. The wider distribution of diseases and health impairments and their causative risk factors among the lower status groups is reflected ultimately in a higher premature mortality rate and a mean life expectancy at birth which is 5–10 years lower than average [15, 16].

The population-representative health surveys in Germany conducted by or with assistance of the Robert Koch Institute (RKI) constitute an important data basis for analyses of the connection be-

tween SES and health, which is often described as "health inequality" [1, 3]. The first pertinent research results were based on data from the national health surveys conducted in the years 1984–1991 within the scope of the German Cardiovascular Prevention Study (DHP) [17]. With the 1998 German National Health Interview and Examination Survey (GNHIES98), the Robert Koch Institute provided a representative dataset for Germany for the first time which was also used for analyses of health inequality [18]. An advantage of GNHIES98 and preceding national health surveys was that examination and measurement data could also be accessed in addition to the interview data. In the years thereafter, the Robert Koch Institute conducted several health surveys with telephone interviews, most recently the German Health Update 2010 (GEDA), which are also a good basis for analysis of health inequality. The first wave of the German Health Interview and Examination Survey for Adults (DEGS1), the GEDA study and the German Health Interview and Examination Survey for Children and Adolescents (KiGGS) make up the three components of the now well-established health monitoring programme at the Robert Koch Institute. DEGS1 is a health survey which enables statements on health inequality among adults on the basis of interview and examination data for the first time since 1998 [19].

The DEGS1 data are used in the following study to analyse the connection between socioeconomic status and five

exemplary health outcomes. Self-rated health status, diabetes mellitus, obesity, depressive symptoms and no sports activity are observed. The wide selection of outcomes gives a comprehensive overview of the current extent of health inequality in Germany. Special attention is paid to the question as to whether the connection between socioeconomic status and the health outcomes is similarly pronounced in all age groups. In addition to this, it is investigated whether significant changes between men and women exist regarding the extent and changes of inequalities over the life course. In the discussion of the results, the relation to the findings of the previous health studies, in particular GNHIES98, is established and the level of international knowledge and research is explored.

Data and method

The German Health Interview and Examination Survey for Adults ("Studie zur Gesundheit Erwachsener in Deutschland", DEGS) is part of the health monitoring system at the Robert Koch Institute (RKI). The concept and design of DEGS are described in detail elsewhere [20, 21, 22, 23, 24]. The first wave (DEGS1) was conducted from 2008–2011 and comprised interviews, examinations and tests [25, 26]. The target population comprises the residents of Germany aged 18–79 years. DEGS1 has a mixed design which permits both cross-sectional and longitudinal analyses. For this purpose,

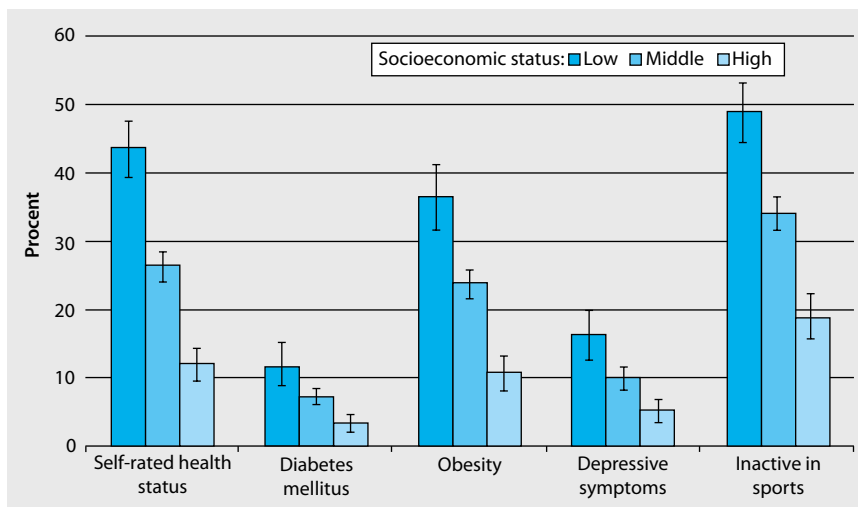


Fig. 1 ▲ General state of health (“moderate”, “poor”, “very poor”; n=4,124), diabetes mellitus (lifetime prevalence; n=4,106), obesity (BMI ≥ 30 ; n=3,648), depressive symptoms (PHQ-9 ≥ 10 ; n=3,929) and inactive in sports (in the last 3 months; n=4,062) by socioeconomic status with 18- to 79-year-old women

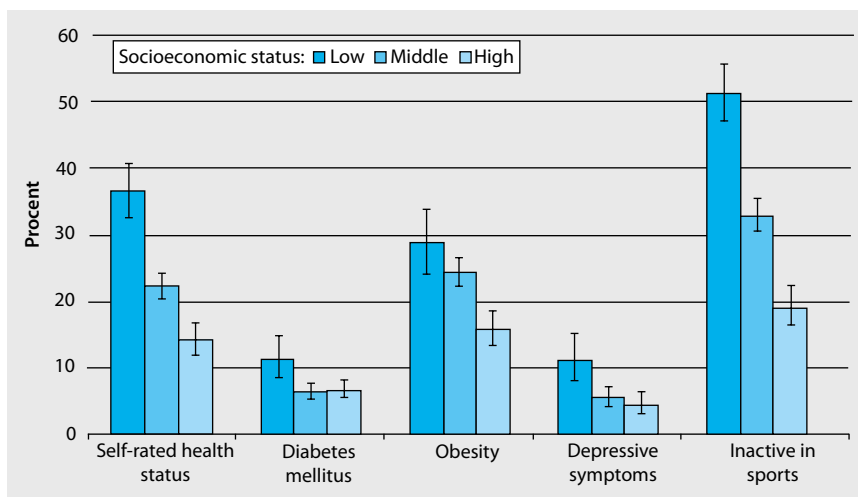


Fig. 2 ▲ General state of health (“moderate”, “poor”, “very poor”; n=3,719), diabetes mellitus (lifetime prevalence; n=3,716), obesity (BMI ≥ 30 ; n=3,350), depressive symptoms (PHQ-9 ≥ 10 ; n=3,556) and inactive in sports (in the last 3 months; n=3,642) by socioeconomic status with 18- to 79-year-old men

a random sample from local population registries was drawn to complete the participants of the German National Health Interview and Examination Survey 1989 (GNHIES98) who re-participated. A total of 8,152 persons participated, including 4,193 first-time participants (response rate 42%) and 3,959 revisiting participants of GNHIES98 (response rate 62%). In all 7,238 persons attended one of the 180 examination centres, and 914 were interviewed only. The net sample (n=7,988) [24] permits representative cross-sectional and time trend analyses for the age range of 18–79 years in comparison with GNHIES98 (n=7,124). The entire net ran-

dom sample was used as the basis for this article. Slight deviations in the results can occur when comparison is made with articles which only take into account participants who have completed the medical examination part.

All analyses are conducted with a weighting factor which corrects deviations in the sample from the population structure (as of 31 Dec 2010) with regard to age, sex, region and nationality, as well as community type and education [24]. A separate weighting factor was established for the examination part. Calculation of the weighting factor also considered reparticipation probability of GN-

HIES98 participants based on a logistic regression model. For the purpose of conducting trend analyses, the data from the GNHIES98 were age-adjusted to the population level as of 31 December 2010. A non-response analyses and a comparison of selected indicators with data from census statistics indicate a high level of representativity of the net sample for the resident population aged 18–79 years of Germany [24].

Prevalences and odds ratios are reported below. The odds ratios were calculated by means of binary logistic regression analyses. They should be interpreted as chance ratios and they express the factor by which the chance of the occurrence of each respective health outcome in the low and middle socioeconomic status group is increased in relation to the high socioeconomic group which was defined as the reference category. To ensure that it will not have to be talked about an increased “chance” of diabetes or obesity, the expression “risk increase” is sometimes used, thus consciously accepting an imprecise term. Differences are considered statistically significant if the 95% confidence intervals do not overlap or the error probability (p) assumes a value less than 0.05. To take into account the weighting as well as the correlation of the participants within a municipality, the confidence intervals and p values were determined with the SPSS 20 method for complex random samples.

Socioeconomic status is determined in DEGS1 with the help of an index which was used in previous studies conducted by the RKI, but which was subject to a comprehensive review within the scope of health monitoring [27, 28]. The so-called SES index is calculated on the basis of information on formal education and vocational training, occupational status and equivalenced net household income as a multidimensional total points score. To do so, the three output variables are transferred initially to metric scales which can take values between 1.0 and 7.0. As the three dimensions are taken into the SES index calculation with the same weight, the value range from 3.0–21.0 is sufficient. Based on this index, a distribution-based distinction of three status groups is

made for the analyses, with the low and high status groups each comprising 20% and the medium status group 60% of the population.

Self-rated health status, diabetes mellitus, obesity, depressive symptoms and no sports activity are viewed as dependent variables. The self-rated health status is recorded in the DEGS1 survey by means of a simple question proposed by the World Health Organization (WHO): “How is your health in general?” [29]. The five answer categories were dichotomised for the evaluations into “very good” or “good” and “fair”, “bad” or “very bad”.

To make statements on the spread of known diabetes mellitus, the answers to the following question were used initially: “Has a doctor ever diagnosed you a blood sugar disorder or diabetes?” In addition, documentation of the intake of antidiabetic medication was taken into account in the form of automated recording of all medications taken in the last 7 days. Lifetime prevalence is observed below. No difference is made between type 1 and type 2 diabetes [30].

The depression module PHQ-9 of PHQ-D, the German version of the Patient Health Questionnaire, can be used in DEGS1 to determine depressive symptoms [31]. This scale comprises points values between 0 and 27, with a high points value indicating an increased risk of depressive symptoms. Dichotomising was undertaken for evaluation purposes (0–9 vs. 10–27 points) with a value of 10 or more points defining the existence of depressive symptoms [32].

Obesity as a severe form of overweight is determined via the body mass index (BMI) which is defined as the ratio of body weight in kilograms to body height in metres squared: $BMI = \text{weight(kg)} \times \text{height(m}^2\text{)}$. According to a classification of the WHO, adults with a $BMI \geq 30$ are considered obese. Measured data on body weight and body height in DEGS1 can be used to calculate BMI [33].

One of the questions used to record sports activity in DEGS1 was: “Please think about the last 3 months when answering questions on sports activity. How often do you exercise?” Those who stated that they had not exercised in the last

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Socioeconomic status and health. Results of the German Health Interview and Examination Survey for Adults (DEGS1)

Abstract

The analysis focuses on the connection between socioeconomic status (SES) and five health outcomes in the 18- to 79-year-old population of Germany. It uses data from the German Health Interview and Examination Survey for Adults (DEGS1) which the Robert Koch Institute conducted in the period from 2008–2011 (n=8,152). Socioeconomic status is recorded via a multidimensional index which includes information on education attainment, occupational status and household income. The results show that persons with a low socioeconomic status have a self-rated health status which is worse than that of per-

sons with a medium or high socioeconomic status, and that they have diabetes more frequently. They also have a higher risk of depressive symptoms, obesity and no sports activity. The results illustrate that health chances and the risk of illness are still very socially unevenly distributed, thus emphasising the significance of political interventions to reduce health inequalities.

Keywords

Socioeconomic status · Social inequality · Health inequality · Health behaviour · Health survey

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Zusammenfassung

Analysiert wird der Zusammenhang zwischen dem sozioökonomischen Status (SES) und 5 exemplarisch ausgewählten Gesundheitsoutcomes in der 18- bis 79-jährigen Bevölkerung Deutschlands. Die Datenbasis wird durch die „Studie zur Gesundheit Erwachsener in Deutschland“ (DEGS1) gebildet, die das Robert Koch-Institut im Zeitraum von 2008 bis 2011 durchgeführt hat (n=8152). Der sozioökonomische Status wird über einen mehrdimensionalen Index erfasst, in den Informationen zum Bildungsniveau, zur beruflichen Stellung und zum Netto-Äquivalenzeinkommen eingehen. Die Ergebnisse zeigen, dass Personen mit niedrigem sozioökonomischen Status im Vergleich zu denen mit mittlerem und hohem

sozioökonomischen Status ihren allgemeinen Gesundheitszustand schlechter einschätzen und häufiger an Diabetes erkrankt sind. Außerdem ist bei ihnen das Risiko für eine depressive Symptomatik, Adipositas und sportliche Inaktivität erhöht. Die Ergebnisse machen deutlich, dass die Gesundheitschancen und Erkrankungsrisiken nach wie vor sehr ungleich verteilt sind. Sie unterstreichen damit die Bedeutung von politischen Interventionen zur Verringerung der gesundheitlichen Ungleichheit.

Schlüsselwörter

Sozioökonomischer Status · Soziale Ungleichheit · Gesundheitliche Ungleichheit · Gesundheitsverhalten · Gesundheitssurvey

3 months are described as inactive in sports [34].

Results

According to the DEGS1 data, 25.3% of 18–79 year olds in Germany report their self-rated health status as “moderate”, “poor” or “very poor”. This applies more to women with 27.1% than to men with 23.4%. With higher age, the proportion of persons with a self-rated health status that is only moderate to very poor increases from 10.9% in the group of women 18–29 year olds to 47.0% of 65–79 year olds,

and from 7.7 to 41.4% of men in the equivalent age groups. In all, 43.5% of women with a low SES rate their self-rated health status as moderate to very poor, as opposed to 26.2% in the middle and 11.8% in the high status group (■ Fig. 1). The comparative figures for men are 36.7% in the low, 22.3% in the middle and 14.2% in the high status group (■ Fig. 2). The differences by socioeconomic status are to be observed in all age groups. They are clearly expressed at an early and middle adult age, become less distinct with advanced age and are not significant with men (■ Tab. 1 and ■ Tab. 2).

Tab. 1 Age group-specific prevalences with 95% confidence intervals for the observed health outcomes by socioeconomic status with women

Socioeconomic status	Self-rated health status ("moderate" to "very poor"; n=4124)	Diabetes mellitus (lifetime prevalence; n=4106)	Obesity (BMI ≥30; n=3648)	Depressive symptoms (PHQ-9≥10; n=3929)	Inactivity in sports (in the last 3 months; n=4062)
18–29 years					
Low	21.3 (13.8–31.3)	3.7 (1.4–9.7)	16.4 (9.9–26.0)	15.0 (9.6–22.7)	30.9 (22.2–41.1)
Middle	8.3 (5.5–12.4)	1.7 (0.7–4.2)	8.3 (5.7–12.1)	11.5 (7.9–16.4)	25.9 (20.8–31.9)
High	2.6 (0.9–7.6)	0.9 (0.1–6.0)	4.4 (1.8–10.5)	6.4 (2.1–17.8)	15.7 (8.0–28.4)
30–44 years					
Low	35.3 (23.0–49.9)	11.5 (4.6–25.7)	32.6 (21.8–45.6)	21.2 (11.8–35.0)	60.9 (48.7–71.8)
Middle	16.9 (12.9–21.9)	5.1 (3.5–7.3)	17.1 (13.5–21.4)	9.9 (7.1–13.6)	37.1 (32.1–42.4)
High	7.4 (4.2–12.7)	4.2 (2.3–7.3)	7.2 (4.3–11.8)	6.0 (3.6–9.9)	22.2 (16.9–28.5)
45–64 years					
Low	52.0 (44.3–59.6)	6.7 (3.9–11.4)	41.8 (34.1–49.9)	19.4 (13.6–26.9)	50.2 (42.5–57.9)
Middle	30.4 (26.6–34.4)	6.4 (4.8–8.4)	27.3 (23.8–31.2)	10.0 (7.8–12.8)	34.0 (30.0–38.2)
High	14.2 (10.7–18.7)	2.4 (1.2–4.7)	13.8 (9.8–19.0)	4.3 (2.7–6.9)	16.3 (12.1–21.5)
65+ years					
Low	54.9 (46.6–63.0)	22.2 (16.8–28.7)	47.1 (39.6–54.7)	9.8 (5.3–17.3)	54.7 (46.0–63.2)
Middle	45.7 (40.9–50.6)	16.6 (13.3–20.5)	38.7 (33.8–43.8)	8.2 (5.5–12.1)	37.7 (33.5–42.1)
High	28.4 (19.6–39.2)	6.9 (3.7–12.8)	15.8 (9.3–25.5)	2.3 (0.8–6.5)	23.5 (16.0–33.2)

Tab. 2 Age group-specific prevalences with 95% confidence intervals for the observed health outcomes by socioeconomic status with men

Socioeconomic status	Self-rated health status ("moderate" to "very poor"; n=3719)	Diabetes mellitus (lifetime prevalence; n=3716)	Obesity (BMI >30; n=3350)	Depressive symptoms (PHQ-9≥10; n=3556)	Inactivity in sports (in the last 3 months; n=3642)
18–29 years					
Low	15.8 (9.4–25.2)	0.0	10.6 (5.5–19.2)	14.4 (7.6–25.6)	26.8 (18.1–37.8)
Middle	6.2 (3.7–10.3)	0.2 (0.0–1.7)	8.7 (5.8–12.9)	6.2 (3.8–10.2)	16.6 (12.5–21.8)
High	2.0 (0.5–8.4)	0.0	5.3 (1.6–16.2)	6.7 (2.2–19.2)	8.9 (4.0–18.6)
30–44 years					
Low	22.1 (14.3–32.5)	2.4 (0.5–10.2)	41.4 (30.3–53.5)	15.7 (8.5–27.3)	50.8 (39.5–62.0)
Middle	12.2 (8.9–16.4)	0.8 (0.2–3.0)	21.7 (17.0–27.3)	4.2 (2.4–7.2)	33.0 (27.8–38.6)
High	8.2 (4.8–13.5)	0.3 (0.0–1.8)	10.8 (6.3–18.0)	3.6 (1.6–7.8)	18.1 (13.1–24.6)
45–64 years					
Low	52.5 (44.3–60.5)	13.5 (8.8–20.1)	28.5 (22.1–35.9)	9.3 (5.6–15.0)	61.1 (53.7–68.0)
Middle	29.1 (25.6–32.9)	6.7 (4.9–9.0)	30.1 (26.2–34.4)	6.2 (4.5–8.4)	38.5 (34.2–43.0)
High	14.7 (11.3–19.0)	7.5 (5.1–10.9)	19.2 (14.2–25.5)	4.3 (2.4–7.7)	19.3 (15.6–23.5)
65+ years					
Low	48.8 (38.7–59.0)	28.7 (20.3–38.9)	34.3 (23.5–47.1)	5.2 (2.1–12.4)	63.0 (52.9–72.0)
Middle	40.6 (35.5–46.0)	19.1 (15.6–23.2)	34.0 (28.1–40.5)	3.6 (2.2–5.9)	40.6 (35.6–45.7)
High	34.7 (27.3–42.9)	20.2 (13.6–28.9)	22.7 (16.2–30.8)	4.0 (1.3–11.6)	28.3 (22.0–35.5)

Lifetime prevalence for diabetes mellitus lies at 7.4% in the 18- to 79-year-old population with only slight differences between men and women (7.5% vs. 7.2%). The spread of diabetes mellitus increases distinctly with advancing age up to 17.5% among 65- to 79-year-old women and 21.4% among men of the same age. Diabetes has been diagnosed in 11.8% of women with a low SES. The comparative values for women with a middle and high SES are 7.3 and 3.2% respectively (■ Fig. 1). With men, the in-

fluence of socioeconomic status is recognised by increased prevalence among the low status group of 11.0%, as opposed to 6.1 and 6.3% among men with a middle and high socioeconomic status (■ Fig. 2). The tendency towards status-specific differences in the spread of diabetes can be observed in all age groups, but they are only statistically significant in women aged 65 and over (■ Tab. 1 and ■ Tab. 2).

The proportion of persons with obesity lies at 23.6% in the 18- to 79-year-old

population. With 23.9% and 23.3% respectively, women and men are affected to almost exactly the same extent. Whereas 9.6% of women and 8.6% of men in early adulthood are obese, 39.3% of women and 31.9% of men are affected by it in later life. Among women with a low SES, 36.2% are obese, as opposed to 23.7 and 10.5% of women with a middle and high SES (■ Fig. 1). Prevalences among men vary from 28.8% in the low through 24.2% in the middle to 15.5% in the high status group (■ Fig. 2). With women

Tab. 3 Influence of socioeconomic status on the observed health outcomes with 18- to 79-year-old women. Results of binary logistic regressions: age-adjusted odds ratios (OR) with 95% confidence intervals (95% CI) and p values

Socioeconomic status	OR	95% CI	p value
Self-rated health status ("moderate" to "very poor"; n=4124)			
Low	5.15	3.78–7.01	<0.001
Middle	2.47	1.91–3.19	<0.001
High	Ref.		
Diabetes mellitus (lifetime prevalence; n=4106)			
Low	3.13	1.89–5.19	<0.010
Middle	2.09	1.35–3.26	<0.010
High	Ref.		
Obesity (BMI≥30; n=3648)			
Low	4.39	3.15–6.12	<0.001
Middle	2.48	1.88–3.27	<0.001
High	Ref.		
Depressive syndrome (PHQ-9≥10; n=3929)			
Low	3.70	2.37–5.77	<0.001
Middle	2.13	1.40–3.23	<0.001
High	Ref.		
Inactivity in sports (in the last 3 months; n=4062)			
Low	3.99	2.94–5.41	<0.001
Middle	2.17	1.72–2.75	<0.001
High	Ref.		

aged 30 and over, clear differences in the spread of obesity can be seen between the low and medium as well as the middle and high status groups (■ Tab. 1). With men, distinct status-specific differences are observed above all among the 30–44 year olds (■ Tab. 2).

Depressive symptoms are to be assumed among 8.1% of the 18- to 79-year-old population. With women, prevalence is considerably higher at 10.2% than with men at 6.1%. Unlike the previously observed health outcomes, only relatively slight differences can be determined between the age groups, which is also an indication of a higher incidence at an early and middle age than at an advanced age, particularly with women. Of women with a low SES 16.0% show depressive symptoms compared to 9.9 and 5.6% respectively for women in the middle and high status groups (■ Fig. 1). Among men with a low SES 11.1% are affected compared to 5.3% of men with a middle and 4.3% with a high SES (■ Fig. 2). Age-differentiated observation shows that the status-specific differences are most pronounced in the 30- to 44-year-old age group (■ Tab. 1). They are also distinct in women aged 45–64 (■ Tab. 2).

Of the 18- to 79-year-old population 33.7% have not engaged in any activity in sports during the last 3 months with hardly any differences between women and men (34.3% vs. 33.0%). Among 18- to 29-year-old women and men, 25.7 and 17.6% respectively can be described as inactive in sports. Inactive in sports increases with advancing age until it reaches 41.1% with 65- to 79-year-old women and 42.2% with men of the same age. Of women with a low SES 48.9% are inactive in sports and therefore to a considerably greater extent than women with a middle or high socioeconomic status—34.0% and 18.9% of whom do not exercise (■ Fig. 1). A similar status-specific distribution pattern for inactivity is to be seen with men, with prevalences of 51.3% in the low, 32.8% in the middle and 19.0% in the high status groups (■ Fig. 2). The status differences in the distribution of no activity in sports become distinct in women and men from the age 30 at the latest. Significant differences can also be detected between the middle and high status groups (■ Tab. 1 and ■ Tab. 2).

To substantiate the descriptive results statistically, binary logistic regression analyses were conducted with the health

outcomes as dependent variables and the SES as an independent variable statistically controlled for the effect of age. Among women, the age-adjusted odds ratios with regard to all observed outcomes are an indication of a significantly increased risk in the low compared to the high status group. The risk of having the self-rated health status estimated as moderate to very poor, for example, is increased by a factor of 5.2 in the low status group compared to the high status group. The risk of obesity also increases significantly by a factor of 4.0 over the reference group. The odds ratios for the other health outcomes vary between 3.1 and 4.0. Differences to the disadvantage of the middle over the high status group can also be seen, but they are not as pronounced (■ Tab. 3).

Clear differences to the disadvantage of the low status group can also be seen with men where the risk of a person's self-rated health status being assessed as moderate to very poor is increased by a factor of 4.0 in the low compared to the high status group. Where no activity in sports is concerned, the results even indicate an increased risk by a factor of 4.9. The odds ratios for diabetes mellitus, obesity and depressive symptoms also indicate an increased risk to the disadvantage of the low status group. With regard to the self-rated health status, obesity and no activity in sports, differences can be detected between men with a middle and high SES (■ Tab. 4).

Discussion

The results of the DEGS1 survey indicate that there is a close connection between SES and health in the 18- to 79-year-old population of Germany. This is confirmed by the results presented for self-rated health status, diabetes mellitus, obesity, depressive symptoms and no activity in sports. The risk of each of the observed health problems is highest in the low status group and lowest in the high status group. Some differences can also be seen, however, between the low and middle as well as the middle and high status groups, thus speaking in favour of a status gradient in health: the lower the SES, the higher the risk of impaired health.

Tab. 4 Influence of socioeconomic status on the observed health outcomes with 18- to 79-year-old men. Results of binary logistic regressions: age-adjusted odds ratios (OR) with 95% confidence intervals (95% CI) and p values

Socioeconomic status	OR	95% CI	p value
Self-rated health status ("moderate" to "very poor"; n=3719)			
Low	4.00	2.94–5.43	<0.001
Middle	1.85	1.45–2.36	<0.001
High	Ref.		
Diabetes mellitus (lifetime prevalence; n=3716)			
Low	1.82	1.18–2.82	<0.010
Middle	0.92	0.65–1.31	0.649
High	Ref.		
Obesity (BMI ≥ 30 ; n=3350)			
Low	2.33	1.66–3.25	<0.001
Middle	1.85	1.14–2.43	<0.001
High	Ref.		
Depressive syndrome (PHQ-9; n=3556)			
Low	2.71	1.62–4.51	<0.001
Middle	1.20	0.79–1.82	0.391
High	Ref.		
Inactivity in sports (in the last 3 months; n=3642)			
Low	4.89	3.67–6.51	<0.001
Middle	2.19	1.74–2.75	<0.001
High	Ref.		

It is sometimes contended in the literature that health inequality is most strongly pronounced in middle age and decreases with advancing age [35, 36]. With a view towards the middle adult age, this is supported to a great extent by the DEGS1 results. There are also isolated indications of a decline in health inequality at an advanced age. The fewer status-specific differences in the self-rated health status and incidence of depressive symptoms among 65- to 79-year-old men compared to the other age groups can be given as examples here. One reason for the decline in health inequality at a more advanced age could be retirement and the changes it brings to living conditions and lifestyle. After the age of 80, the effects of biological ageing could possibly superimpose social influences even more [37, 38].

In addition to this, the consensus for a long time was that health inequality was more pronounced in men than in women [39, 40]. The main line of reasoning behind this was the lower employment levels among women and the combination of high workloads and health risks in jobs held mainly by men with a low occupational status. The riskier health behaviour of men which is to be observed more often

in the low socioeconomic status groups was also given as a possible reason. The results of the DEGS1 survey, however, do not give any indications that health inequality among women could be any less pronounced than with men. On the contrary, with the exception of no activity in sports, the results for all other health outcomes show that the differences between the status groups are more pronounced among women than men.

Analyses of the influence of SES on health were one of the main themes of GNHIES98. A direct comparison of the DEGS1 and GNHIES98 results is only possible, however, for those health outcomes which were conducted the same way in both surveys. Of the health outcomes observed here, this only applies to obesity and no activity in sports. On the basis of the GNHIES98 data, the results show an increased risk of obesity by a factor of 1.5 and 3.1 respectively for men and women from the low status group compared to their counterparts in the high status group. Where no activity in sports is concerned, the risk can be said to be 4.1 and 4.5 times higher for men and women from the low status group. Comparison with the DEGS1 results makes it clear

that health inequality could have spread further in the last 14 years and remained more or less constant for no activity in sports. Comparisons made with other countries in Europe also come to the conclusion that health inequality has not declined in the last 10–20 years and that even greater socioeconomic differences in peoples' health status and health behaviour are to be assumed in several areas [41, 42].

Against this background, health inequality continues to constitute an important sphere of activity where public health and health policy are concerned. The large number of empirical findings available outlines the existing problem areas and identifies distinct connecting points for political interventions. In this context the contribution that primary prevention and health promotion can make towards reducing health inequalities is discussed [43, 44]. It is also discussed to what extent medical, rehabilitative and nursing care are satisfying the specific demands of socially disadvantaged population groups [45]. It is quite obvious that a sustainable reduction in health inequality will presumably only be possible, through effective combating of poverty and strengthening of social integration. The prerequisite for this are interdepartmental efforts and the coordination of measures and programmes between the relevant areas of politics, which include employment, education, social, family as well health policy. The regular provision and evaluation of meaningful data, as can be guaranteed by health monitoring and health reporting at the Robert Koch Institute, is of prime importance here.

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Funding of the study. The study was financed by the Robert Koch Institute and the Federal Ministry of Health.

Conflict of interest. On behalf of all authors, the corresponding author states that there are no conflicts of interest.

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