English version of "Teilnahme an verhaltenspräventiven Maßnahmen. Ergebnisse der Studie zur Gesundheit Erwachsener in Deutschland (DEGS1)"
Bundesgesundheitsbl 2013 · 56:878–884
DOI 10.1007/s00103-013-1664-y

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Participation in health behaviour change programmes

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

Background and aims

Noncommunicable diseases like cancer, diabetes and strokes as well as cardiovascular diseases represent the main burden of disease in Germany [1], and a broad range of preventive measures are needed to counteract the avoidable morbidity and premature deaths that they cause. The World Health Organization (WHO) also views combating noncommunicable diseases as one of the key fields of action at the current time [2]. The WHO Regional Office for Europe proposes a comprehensive preventive overall strategy—including health promotion measures as well as disease prevention interventions—which should focus on both structural determinants and behaviour patterns [3]. Population-wide changes in health behaviour, particularly in the fields of nutrition and physical activity [2, 4] but also with regard to relaxation [5] play a key role in the prevention of noncommunicable diseases. Health behaviour is defined as all forms of behaviour "that, in accordance with scientific […] evidence, increases the probability of avoiding disease or maintaining good health" ([6] p. 311, translated). This also includes participation in disease prevention and health promotion programmes.

The prevention activities in Germany are dominated by health behaviour change programmes, particularly in the field of primary prevention [7]. Health behaviour change programmes are measures that improve specific individual health behaviour irrespective of the concrete setting in which the behaviour takes place (school or company, for example). Individual health behaviour is promoted through information, advice and the practicing of new forms of behaviour. In the case of adults, this mainly takes the form of group courses of adult education centres or sports clubs, companies, commercial providers like fitness studios and courses of statutory health insurance funds [7]. The programmes of the statutory health insurance funds are also designed to reduce health inequality in accordance with Section 20 of Book Five of the German Social Code (SGB V) [8]. Factors that influence participation in health behaviour change programmes include in particular sex, age, social status, general health-related attitudes, self-efficacy expectation, social support and other forms of health behaviour going beyond participation in prevention programmes [9, 10, 11].

The following study uses representative data for Germany to show which population groups take part in health behaviour change programmes in the areas of diet, physical activity and relaxation. The analyses are based on a cross-sectional study using data from the German Health Interview and Examination Survey for Adults ("Studie zur Gesundheit Erwachsener in Deutschland", DEGS). The aim is to outline participation rates in health behaviour change programmes in the central prevention fields of diet, physical activity and relaxation by sex, age group, SES and type of health insurance. A trend analysis is performed using data from German National Health Interview and Examination Survey 1998 (GNHIES98) [12] to determine whether participation rates have increased during the last decade.

Methods

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 [13, 14, 15, 16, 17]. The first wave (DEGS1) was conducted from 2008–2011 and comprised interviews, examinations and tests [18, 19]. The target population was the residents of Germany aged 18–79 years. DEGS1 has a mixed design which permits both cross-sectional and longitudinal analyses. For this purpose, a random sample from local population registries was drawn to complete the participants of the 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%). A total of 7,238 persons attended one of the 180 examination centres, and 914 were interviewed only.

Tab. 1 Participation in health behaviour change programmes during the last 12 months by sex and age group; figures in percent; data basis: DEGS1 ($n_{unweighted}$=1,405)

Age group	18–29	30–44	45–64	65–79	Total
Prevention area	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**
Women					
Diet	3.0 (1.6–5.3)	2.3 (1.5–3.6)	3.2 (2.4–4.4)	4.2 (2.7–6.4)	3.1 (2.6–3.9)
Physical activity	12.8 (9.7–16.8)	19.3 (16.2–22.7)	21.3 (18.9–23.9)	22.6 (19.6–26.0)	19.5 (18.0–21.1)
Relaxation	2.5 (1.4%-4.3)	4.2 (2.9–6.0)	4.9 (3.8–6.4)	2.6 (1.5–4.6)	3.8 (3.2–4.5)
At least one programme[a]	14.5 (11.1–18.7)	21.9 (18.8–25.4)	24.0 (21.5–26.8)	25.9 (22.5–29.6)	22.1 (20.5–23.8)
Men					
Diet	2.0 (0.8–4.7)	2.0 (1.1–3.9)	3.1 (2.1–4.5)	3.1 (2.0–4.7)	2.6 (2.0–3.4)
Physical activity	8.3 (5.9–11.6%)	7.6 (5.6–10.2)	9.3 (7.6–11.3)	13.3 (10.8–16.4)	9.4 (8.3–10.6)
Relaxation	1.5 (0.6–3.9)	1.5 (0.8–2.9)	2.6 (1.7–3.9)	0.8 (0.4–1.8)	1.8 (1.3–2.5)
At least one programme[a]	8.3 (5.9–11.6)	9.4 (7.2–12.2)	11.2 (9.3–13.5)	15.7 (12.9–18.9)	11.0 (9.8–12.3)
Women and men					
At least one programme[a]	11.3 (9.1–14.1)	15.6 (13.7–17.8)	17.6 (16.1–19.3)	21.2 (18.8–23.7)	16.6 (15.5–17.7)

[a]Due to multiple answers, the percentage for "at least one programme" is higher than the sum of all the individual percentages.

The net sample (n=7,988) permits representative cross-sectional and time trend analyses for the age range from 18–79 years in comparison with GNHIES98 (n=7,124) [17]. The data of the revisiting participants can be used for longitudinal analyses. As, due to health problems, 126 participants were only sent a short questionnaire and 55 persons did not complete a questionnaire at all, the sample used for our study comprised 7,807 persons.

The standardized self-filled questionnaire used the updated question on prevention programmes from GNHIES98 [20]: "There are a number of health promotion programmes organised by various providers and focusing on topics like diet, physical activity, relaxation and sport or fitness. Some of these programmes are financed by the health insurance funds. Have you taken part in programmes of this kind (courses, exercises, advisory sessions) during the last 12 months? If so, please say which programmes you have attended in the last 12 months. Multiple answers allowed". The list included options like "weight loss", "healthy diet", "gymnastics", "relaxation or stress management", "fitness/recreational sport" and "other courses". For the purpose of analysis, the response options from the same prevention fields were merged to form one overall "diet" variable respectively one overall "physical activity" variable. These categories are based on the classification used by the "Guideline Prevention" published by the National Association of Statutory Health Insurance Funds [8] and which these funds have been using as a guideline for their programmes since the year 2000. In addition, the variable "participation in at least one health behaviour change programme during the last 12 months" (abbreviated to "at least one programme") was created. Respondents who said they had taken part in more than one programme during the last 12 months were for this variable only counted once. The variable "at least one programme" can therefore be used to determine how many people were actually reached by the programmes.

Participants were also asked whether taking part in one or more programmes improved their health status or their subjective well-being and were able to answer "yes" or "no".

The data from the self-filled GNHIES98 questionnaire were used for trend analysis [20]. With slight variations in wording, GNHIES98 asked the same question on participation in preventive programmes: only the introduction to the DEGS1 question referred to the fact that some of these programmes are financed by the health insurance funds. There were also differences in the answer options with regard to physical activity: GNHIES98 asked about back and spine gymnastics, while DEGS1 asked about fitness and mobility programmes based on the current "Guideline Prevention" [8]. The GNHIES98 data were re-calculated for the purposes of the current comparison. In deviation from the initial 1999 publication [20], multiple answers were taken into account, the weighting factor updated and only respondents aged 18 and above included in the analysis.

Social status was determined using an index which includes information on school education and vocational training, professional status and net household income (weighted by household needs) and which enables a classification into low, middle and high status groups [21]. In order to ascertain health insurance fund membership, participants were asked what type of health insurance they had, and a distinction was made between private and statutory health insurance. Due to the large number of participants with statutory insurance, the statutory health insurance funds were further subdivided into "AOK" (so-called local health care funds and the largest health insurance fund in this segment) and "other statutory health insurance funds". The group of "other statutory health insurance funds" includes the alternative health insurance funds ("Ersatzkassen"), the company health insurance funds ("Betriebskrankenkassen"), the guild health insurance funds ("Innungskrankenkassen"), the Sickness Fund for Miners and Seamen (named as "See-Krankenkasse/Knappschaft" at the time of the survey) and the agricultural health insurance funds ("Landwirtschaftliche Krankenkasse").

The cross-sectional and trend 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, nationality, as well as community type and education [17]. A separate weighting factor was prepared for the examination part. Calculation of the weighting factor also considered re-participation probability of GNHIES98 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 of 31 Dec 2010. A non-response analysis and a comparison of selected indicators with data from the census statistics indicate a high level of representativity of the net sample for the residential population aged 18–79 years of Germany [17]. To take into account both the weighting as well as the correlation of the participants within a community, the confidence intervals were determined with the survey procedures for complex samples of SPSS-20. Differences are regarded as statistically significant if the respective 95% confidence intervals do not overlap.

Results

A total of 16.6% of participants in DEGS1 said they had taken part in at least one health behaviour change programme during the 12 months prior to the survey. The participation rate among women (22.1%) is twice as high as that among men (11.0%). This difference is statistically significant in all age groups apart from the 18–29 year olds. Participation rates increased for both sexes with increasing age. The youngest age group of 18–29 year olds takes part in programmes only half as often as the highest age group of 65–79 year olds (**Tab. 1**). The highest participation rates are for physical activity programmes (14.5%; 95% CI 13.4–15.5), showing significant differences relative to "diet" and "relaxation". Nutrition programmes are used by 2.9% (95% CI 2.4–3.4) of respondents and relaxation/stress management programmes by 2.8% (95% CI 2.4–3.3).

The vast majority of respondents indicated they felt participation in a prevention programme had improved their health or well-being (81.8%; 95% CI 79.2–84.1). There are no statistically significant or noticeable differences between women and men or between different age groups (not shown).

If SES is also included in the analysis, we see that only slightly more than one in ten respondents with low SES (11.5%; 95% CI 9.4–14.1) participates in at least one programme but that almost one in five of those with middle (17.4%;

Abstract · Zusammenfassung

Bundesgesundheitsbl 2013 · DOI 10.1007/s00103-013-1664-y

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Participation in health behaviour change programmes. Results of the German Health Interview and Examination Survey for Adults (DEGS1)

Abstract

Health behaviour change programmes to promote healthy behaviours are aimed at, among other things, counteracting the emergence of widespread non-communicable diseases. Which population groups use these programmes? This analysis is based on data from DEGS1, which was conducted from 2008–2011. People aged 18–79 years were asked about their participation in programmes in the last 12 months in the fields of nutrition, physical activity and relaxation (n=7,807). The analysis was stratified by sex, age, socioeconomic status (SES), and type of statutory health insurance fund. A total of 16.6% of respondents participate in at least one programme for behaviour change, with women using these programmes significantly more frequently, indeed twice as often, as men (22.1% versus 11%). The older population participates more often than younger age groups. Women and men with low SES use the programmes significantly less frequently than those with middle or high SES. Women who are insured by the AOK health insurance group have a significantly lower rate of participation than women insured by any other statutory health insurance fund. Overall participation has almost doubled since the "German National Health Interview and Examination Survey 1998" (9.1%). Further efforts are necessary to reach population groups with low participation rates.

Keywords

Health survey · Prevention · Health behaviour change programmes · Health behaviour · Health reporting

Teilnahme an verhaltenspräventiven Maßnahmen. Ergebnisse der Studie zur Gesundheit Erwachsener in Deutschland (DEGS1)

Zusammenfassung

Angebote zur Förderung des Gesundheitsverhaltens zielen unter anderem darauf ab, der Entstehung nicht übertragbarer Krankheiten entgegenzuwirken. Welche Bevölkerungsgruppen nutzen diese Maßnahmen? Diese Analyse basiert auf Daten von DEGS1, der ersten Erhebungswelle der „Studie zur Gesundheit Erwachsener in Deutschland" des Robert Koch-Instituts, die von 2008 bis 2011 durchgeführt wurde. Personen von 18 bis 79 Jahren wurden über ihre Teilnahme an verhaltenspräventiven Maßnahmen in den letzten 12 Monaten in den Bereichen Ernährung, körperliche Aktivität und Entspannung befragt (N=7807). Die Auswertung erfolgte stratifiziert nach Geschlecht, Alter, sozioökonomischem Status (SES) und Kassenart in der gesetzlichen Krankenversicherung. 16,6% nehmen an mindestens einer Maßnahme teil: Frauen signifikant fast doppelt so häufig (22,1%) wie Männer (11,0%). Die ältere Altersgruppe nutzt die Angebote häufiger als die jüngere. Frauen und Männer mit niedrigem SES nutzen die Maßnahmen deutlich weniger als mit mittlerem oder hohem SES. Frauen, die bei der Allgemeinen Ortskrankenkasse (AOK) versichert sind, haben eine deutlich niedrigere Beteiligung als Frauen in anderen gesetzlichen Krankenkassen. Insgesamt hat sich die Teilnahme im Vergleich zum „Bundes-Gesundheitssurvey 1998" (BGS98) fast verdoppelt (9,1%). Weitere Anstrengungen sind notwendig, um Bevölkerungsgruppen mit geringer Teilnahme zu erreichen.

Schlüsselwörter

Gesundheitssurvey · Prävention · Verhaltensprävention · Gesundheitsverhalten · Gesundheitsberichterstattung

Tab. 2 Participation in at least one health behaviour change programme during the last 12 months by social status, sex and age group; figures in percent; data basis: DEGS1 ($n_{unweighted}$=1,398)

Age group	18–29	30–44	45–64	65–79	Total
Social status	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**
Women					
Low	12.6 (7.0–21.6)	12.8 (6.3–24.2)	14.3 (9.7–20.5)	22.8 (15.4–32.3)	16.1 (12.7–20.3)
Middle	15.5 (11.3–20.8)	22.2 (17.9–27.2)	24.5 (21.4–28.0)	25.5 (21.9–29.4)	22.5 (20.5–24.6)
High	12.7 (7.4–21.0)	26.3 (20.9–32.7)	30.5 (24.6–37.0)	37.7 (28.3–48.0)	27.3 (23.8–31.1)
Men					
Low	8.8 (4.0–18.3)	n.r.	6.3 (3.1–12.5)	6.5 (3.2–12.8)	6.5 (4.4–9.5)
Middle	8.6 (5.7–12.9)	10.8 (7.5–15.4)	12.5 (9.9–15.7)	16.0 (12.3–20.6)	11.9 (10.2–13.8)
High	n.r.	10.0 (6.6–15.0)	12.1 (8.8–16.4)	23.7 (17.7–31.0)	12.5 (10.3–15.1)

n.r. not reported, as the number of unweighted cases <5.

Tab. 3 Participation in at least one health behaviour change programme during the last 12 months by type of health insurance fund, sex and age group; figures in percent; data basis: DEGS1 ($n_{unweighted}$=1,405)

Age group	18–29	30–44	45–64	65–79	Total
Type of insurance	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**
Women					
AOK	12.2 (7.6–18.9)	23.1 (16.4–31.5)	17.1 (13.2–22.0)	17.7 (13.0–23.6)	17.6 (14.6–21.2)
Other statutory	16.4 (12.0–22.0)	22.4 (18.4–26.8)	26.7 (23.5–30.2)	31.0 (26.3–36.2)	24.5 (22.4–26.8)
Private	n.r.	15.1 (8.9–24.3)	25.4 (18.4–34.1)	21.3 (13.1–32.8)	19.5 (15.5–24.2)
Men					
AOK	9.2 (4.4–18.5)	6.9 (3.6–12.8)	10.7 (7.4–15.1)	9.3 (5.2–16.2)	9.2 (7.0–11.9)
Other statutory	9.1 (6.0–13.4)	11.6 (8.5–15.6)	13.1 (10.4–16.3)	18.9 (15.2–23.3)	12.8 (11.2–14.7)
Private	n.r.	4.5 (2.2–9.1)	5.7 (3.5–9.1)	15.8 (9.7–24.7)	6.9 (5.0–9.4)

AOK local health care fund (the largest German statutory health insurance fund group), *Other statutory* all statutory health insurance funds groups besides AOK, *n.r.* not reported, as the number of unweighted cases <5.

95% CI 16.0–18.8) or high SES (19.1%; 95% CI 17.1–21.2) does so. This significant difference also remains if sex is also taken into account: women with low SES participate in programmes less frequently than women with middle or high SES. The same significant difference between SES groups is found among men. If age is additionally taken into account, the only significant difference among women is among the 45–64 year olds and no significant differences are found in any of the male age groups (**Tab. 2**). Due to the low number of cases, SES analysis was not performed for the individual prevention areas of diet, physical activity and relaxation.

Participation in at least one health behaviour change programme differs regarding type of health insurance. The highest proportion of participants among those with statutory health insurance is among the respondents grouped in the category "other statutory health insurance funds". In total, around one in five of those with this type of insurance takes advantage of these prevention programmes (18.9%; 95% CI 17.4–20.5), while 13.7% of respondents with AOK insurance participate in a programme (95% CI 11.7–15.9). Privately health insured respondents have the lowest score for programme participation at 11.5% (95% CI 9.5–13.9). For all types of insurance, participation levels of women are higher than those of men for the same type of insurance fund and age group. However, women insured with the AOK group have lower participation rates than women insured by the other statutory health insurance funds (significant difference). The difference is not as pronounced among men. Significant differences between age groups are found in particular among respondents insured with the "other statutory health insurance funds". Both the male and female 65–79 year olds participate in the relevant programmes twice as frequently as the youngest age group (**Tab. 3**). Due to the low number of cases, analysis by type of health insurance was not performed for the individual prevention areas of diet, physical activity and relaxation.

The results of GNHIES98 were used for trend analysis to investigate the development of participation rates in Germany during the last decade. The comparison clearly shows a marked increase. Overall, 9.1% of GNHIES98 respondents took part in at least one programme (95% CI 8.2–10.0), with women participating more frequently than men (women: 11.8%; 95% CI 10.6–13.1; men 6.3%; 95% CI 5.4–7.4; significant difference). This means the percentage of participants in preventive programmes in DEGS1 is 7.5% points higher overall than in GNHIES98, with an increase of 10.3% points for women and 4.7% points for men. This increase also remains statistically significant if the changed age structure of the population since 1998 is taken into account: if the data from GNHIES98 are weighted for adjustment to the 2010 population structure, the participation rate in health behaviour change programmes for 1998 is 9.3% (95% CI 8.4–10.3), which

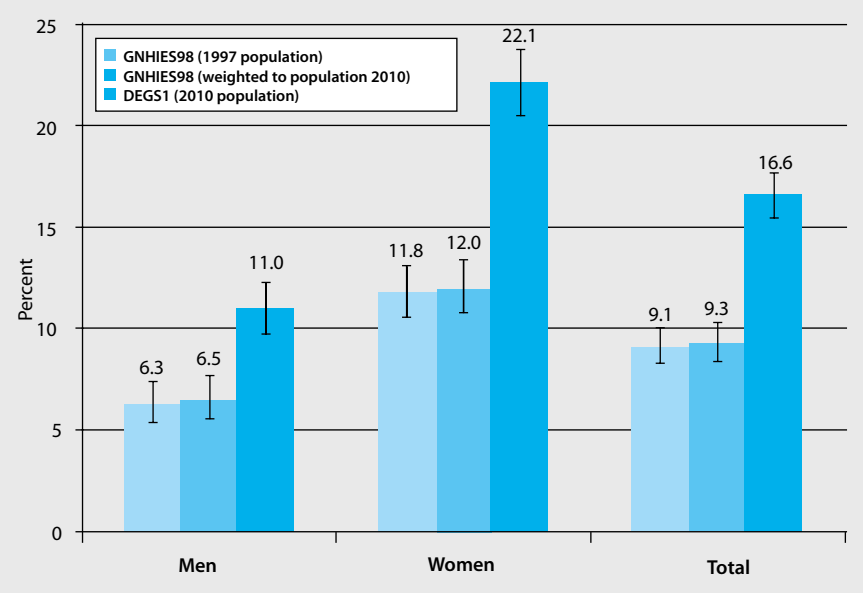

Fig. 1 ▲ Participation in at least one health behaviour change programme during the last 12 months by sex; figures in percent; data basis: DEGS1 and GNHIES98 (DEGS $n_{unweighted}$=1,405, GNHIES98 $n_{unweighted}$=663)

is still 7.3% points below that measured by DEGS1 (**Fig. 1**).

Discussion

Current participation rates

About one in six respondents in DEGS1 said they had taken part in a health behaviour change programme during the last 12 months, with women participating twice as frequently as men and the younger age groups more seldom than the older age groups. Participation is one third lower among those with low SES than high SES, although the significant difference more or less disappears when age is additionally taken into account.

The results of DEGS1 generally confirm the findings of the survey German Health Update from 2009 (GEDA09), which used a random sample that was more than twice the size of the DEGS1 sample [22]. GEDA09 asked the same question on participation—but as part of a telephone interview and not, as in DEGS1, as part of a self-completed questionnaire. The answer options for physical activity in GEDA09 differ only slightly in wording from the DEGS1 options. GEDA09 summarised physical activity measures under the heading of "programmes designed to improve physical fitness or mobility" [23], whereas DEGS1 merged the answers on "gymnastic" and "fitness/recreational sport" to form a single variable for calculation purposes.

The absolute number of cases [24] for programme participation recorded in the statistics of the statutory health insurance funds for 2009 relative to the total number of people insured with statutory health insurance funds—and therefore relative to a large part of the German population—can be used and extrapolated to allow comparison with the participation rates measured by DEGS1. The estimated population-wide participation rate calculated on this basis is far lower [23] and suggests that the respondents in DEGS1 (and also in GEDA09) probably also mentioned programmes that were not organised by the statutory health insurance funds such as sports programmes staged by sports clubs or programmes with tertiary preventive objectives, in other words courses developed for people who are already ill such as cardiac rehab groups or diabetes seminars [23].

Development of participation rates over time

Comparison of DEGS1 and GNHIES98 data shows that participation in health behaviour change programmes has almost doubled during the last decade, even if the changed age structure of the German population is taken into account.

The GNHIES98 data were re-calculated for the purposes of this comparison, with the result that the overall frequency is 1.4% points lower than in the original GNHIES98 publication. The clear increase remains, however, regardless of how the data are calculated. The data from the Kirschner et al. [11] study in 1993/1994—the first large-scale study on the prevention programmes of the statutory health insurance funds—show a similar size. Nevertheless, part of the increase in participation rates over the last 10 years could be due to different answer options in GNHIES98. Although the data were also collected in written form in GNHIES98, the aspect of endurance and fitness activities was not explicitly mentioned in the answer option on physical activity. In GNHIES98, the emphasis of physical activity was on back or spine gymnastics (preventive back pain training). Detailed analysis of the data for physical activity shows that participation in the relevant programmes has increased by about half during the last 10 years, from 6.2 to 9.0%, and that the score for "fitness/recreational sport" in DEGS1 covers 7.7% (multiple answers possible). As a certain percentage of fitness course participants in GNHIES98 are probably already covered by the answers for "other programmes", it must be assumed that the overall rate of participation in health behaviour change programmes has increased considerably since 1998, albeit probably not to the degree outlined here—as the statistics of the statutory health insurance funds also indicate an increase in participation in individual prevention programmes since Section 20 of Book Five of the German Social Code was amended in 2000 [24].

Reasons for increased participation

The increased participation in health behaviour change programmes is also due to the fact that the amendments to Section 20 of Book Five of the German Social Code re-assigned the task of primary prevention to the statutory health insurance funds, and the fields of nutrition, physical activity and relaxation/stress management are among the central fields of action for programmes focusing on the individual [8]. Moreover, the range of programmes geared towards physical activity—which make up the majority of health behaviour change programmes—has grown in recent years, particularly in terms of programmes designed to appeal to older age groups [25].

The increased participation in health behaviour change programmes during the last decade could also be partly driven by the positive assessments of these programmes by respondents. This can be seen as an indication of the individual success of a programme, as one in three respondents also says they took part in two or more programmes. Additional longitudinal analyses using DEGS1 and GNHIES98 data might be able to show whether new participants were attracted to the programmes at the time of DEGS1 or whether people already taking part in these programmes were maintaining their health behaviour.

Population groups reached by health behaviour change programmes

At the same time, there is the risk with health behaviour change programmes that only those population groups who already show pronounced health behaviour take part, whereas the people who stand to gain most of all from these programmes are not reached (prevention dilemma) [27]. The latter include socially disadvantaged groups who often have a poorer health status [28]. The primary prevention programmes organised by the statutory health insurance funds in particular should improve general health and above all reduce the socially determined inequality of opportunities for health [24]. Low social status is one indicator of social disadvantage. As in GEDA09, GNHIES98 and also Kirschner et al. [11], the distribution of SES in DEGS1 indicates that prevention programmes reach socially disadvantaged population groups least effectively of all. Social status also explains the far lower percentage of those with AOK health insurance who take part in prevention programmes compared to respondents with other types of statutory health insurance: in DEGS1, the group with AOK insurance comprised twice the percentage of people with low social status (women 35.6%; 95% CI 31.8–39.6, men 35.1%; 95% CI 31.1–39.3) compared to the "other statutory health insurance funds" (women 14.9%; 95% CI 13.2–16.9, men 15.4%; 95% CI 13.1–18.0).

Conclusion

If health behaviour change programmes focusing on diet, physical activity and relaxation are to help to reduce the population-wide prevalence of noncommunicable diseases, then we need further and strategies going beyond to ensure that these programmes reach more than just one sixth of the population. The most promising effects are comprehensive strategies or multicomponent interventions that integrate prevention programmes in formal organisations like the workplace or schools, settings that appeal to individuals and that are backed up by media or legislative activities [29, 30, 31, 32]. To ensure that prevention does not reinforce health inequality, thereby, all the relevant actors in the field of health policy are encouraged to intensify their efforts to develop strategies that reach the socially disadvantaged groups in society [29, 33]. There is initial evidence that some programmes also have minor yet positive effects among the socially disadvantaged [34]. The individual-focused programmes, for example of the statutory health insurance funds, should serve not so much as a marketing tool [11] but should be increasingly implemented within the context of setting aproaches in health promotion programmes (in other words, as measures that are part of the "system" of concrete settings, such as "company", "school" etc.) [35, 36]. The results of the aforementioned multicomponent interventions indicate that health behaviour change programmes are just one of the factors that can reduce the prevalence of noncommunicable diseases and that they must be embedded in structural prevention programmes and community measures [35] that make the healthier decision the easier decision [3, 37].

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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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