

Trends in lifestyle coronary risk factors in the Danish MONICA population 1982–1992

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Myocardial infarction incidence rate declined 3–5% per year during 1982–1992 in the Danish study population of the WHO MONICA Project. We examined whether smoking habits, alcohol intake, dietary habits and physical activity levels changed in the population during the same period.

Data from 6695 men and women of ages 30, 40, 50 and 60 y, examined in 1982–4, in 1986–7, and in 1991–2, were analysed to estimate trends. A summary healthy eating index and six scores derived by factor analysis were used to analyse food frequency data.

The percentage of smokers declined 1.6% per year in men, and 1.0% per year in 30-, 40- and 50-y-old women, but increased 0.9% per year in 60-y-old women. The percentages of heavy cigarette smoking men and women nevertheless remained constant and close to 30%. Total alcohol intake declined among 30-y-olds, but appeared constant in other age groups. However, among 60-y-old men and among women over 30, the percentage of wine-drinkers rose from 6–11% in 1982–4 to 9–18% in 1991–2. Only 60-y-old men became more physically active at work and only 30-y-old women more so in leisure times. The percentage of individuals with a low healthy eating index decreased and the percentage with a high index increased. More importantly, dietary factor scores showed trends suggesting that very profound and potentially beneficial changes in dietary habits occurred.

Lifestyle in the DAN-MONICA population changed in several ways that may have contributed to the declining incidence of myocardial infarction during the 1980s.

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Introduction

The primary incidence rate of myocardial infarction (MI) in the Danish WHO MONICA study population declined 5% per year in men and 3.5% per year in women during 1982–1992.¹ We have analysed data from three surveys in the population, conducted in 1982–4, in 1986–7, and in 1991–2, to assess whether these impressive trends were related to concurrent, favourable changes in risk factor levels. Our first study focused on some well-established biological risk factors including body mass index, blood pressure and serum lipids, and showed that these risk factors either did not change in the population, or exhibited weak trends in the opposite direction of what could be expected.²

In the present study we examined whether lifestyle risk factors, including smoking and drinking behaviour, physi-

cal activity levels and dietary habits, changed in the DAN-MONICA study population during the 1980s.

Material and methods

Subjects

The design of the Danish WHO MONICA surveys has been described previously.² Briefly, random samples of equal sizes of 30-, 40-, 50-, and 60-y-old men and women living in the south-western part of Copenhagen County were drawn from the Danish Civil Registration System and invited to participate in surveys conducted in 1982–4 (DAN-MONICA I), in 1986–7 (DAN-MONICA II), and in 1991–2 (DAN-MONICA III). Seventy-nine percent, 75% and 73% of those invited eventually attended. The majority of the non-attendees were interviewed by telephone to get a brief medical history, socio-economic data and information about smoking habits, as well as their body height and weight. After exclusion of immigrants who were not of North-European ancestry (less than 5%), data for

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3317 women (1822 + 737 + 778) and 3378 men (1876 + 725 + 777) were available.

Questionnaires

Information on smoking and drinking behaviour, dietary habits and on physical activity was assessed using questionnaires that were sent to the participants before appointed visits at the project centre. They were completed before or during a daylong visit. Data on smoking, drinking and physical activity were missing from less than 1% of the participants, whereas 9.5% of the participants had not completed the questionnaire on dietary habits.

Smoking

Questions on smoking concerned current and previous habits, and the kinds and average daily quantities of tobacco consumed (cigarettes, cheroots, cigars, pipe). In the analyses of the data, individuals were categorized as current (daily) smokers, ex-smokers or never smokers. Occasional smokers were considered as either ex-smokers or never smokers, depending on whether or not they had previously been daily smokers. A daily consumption of more than 15 grams of tobacco was defined as heavy smoking.

Alcohol intake

Alcohol intake was assessed by the average number of bottles of beer, glasses of wine and units of spirits reported as having been consumed per week during the past year. We considered a usual consumption of less than 1 drink per week as none, and defined a 'low intake' as a consumption of 1–14 drinks per week for women and of 1–21 drinks per week for men and a 'high intake' as a consumption of more than 14 and 21 drinks per week, respectively. The differentiation is based on the thresholds recommended by the Danish National Board of Health. We defined 'wine-drinkers' as people drinking seven or more glasses of wine per week. The quality of the data obtained from the questionnaires is good, as evaluated from a comparison with data obtained from thorough dietary interviews of 493 participants in a DAN-MONICA substudy.³

Physical activity

Activity at work was classified as A: mostly sedentary; B: often walking about, but without carrying heavy objects; C: mostly walking, often on stairs and often lifting various objects; D: heavy manual work; and E: not working (unemployed). We combined A and E, and B, C and D to categorise people as being 'physically inactive' and 'physically active' at work, respectively. Leisure time activity

was classified as A: mostly sedentary; B: light walking, bicycling or other light activity for at least 4 h a week; C: jogging, demanding sports or heavy manual work (eg gardening) for at least 3 h a week; and D: long-distance running or competitive sports several times a week. Furthermore, as regards sports and exercises, the participants were asked to give the number of hours per week spent with activities of duration of more than 1 h. We defined people in group A as being 'inactive', unless they spent more than 2 h per week engaged in sports or exercise.

Dietary habits

Dietary habits were assessed using a food frequency questionnaire with 26 food items as previously described.⁴ The alternatives in the frequency scale were never, once a month or less, twice a month, once a week, two to three times a week, once a day, two to three times a day, and four times or more daily. Data were aggregated using both a healthy eating index⁵ and principal component analysis (factor analysis).⁶ Based on indices of overall diet quality and the current recommendations for a healthy diet, we calculated a crude index by giving one point for each of the following four characteristics of the diet: (1) not consuming butter, margarine or animal fats daily; (2) consuming either raw or boiled vegetables at least once daily; (3) consuming either coarse white bread or coarse rye bread at least once daily; and (4) consuming fruit at least once daily. Since there were relatively few participants in the two extreme categories (ie those with 0 or 4 points), they were combined with the neighbouring categories to give three categories: a low value of the index (0 or 1 point), an average value (2 points), and a high value (3 or 4 points). To perform factor analysis, the frequency scale was re-coded as follows: 0 = once a month or less (including never); 1 = once a week or less; and 2 = two to three times a week, or more often. Preliminary analyses showed that frequency of intake of low fat margarine, fish and eggs tended to associate with several apparently different factors. These food items contribute only little to energy intake⁷ and were disregarded. The frequencies of intake of the remaining 23 items aggregate in six factors (components), which explain 45% of the total variation.

The first factor (named 'Coarse bread') is positively associated with intake of coarse bread (and inversely with other types). The second factor (named 'Baked goods and sweets') is associated with intake of cakes, biscuits, jam, honey, candy, ice cream and soda. The third factor (named 'Fruit and vegetables') is positively associated with intake of fruit, juice, vegetables and cheese. The fourth factor (named 'Meat, potatoes and fats') is positively associated with intake of meat, sausages, potatoes, butter, fat and margarine. It reflects main characteristics of traditional Danish main meals. The fifth factor (named 'Pasta and rice') is positively associated with intake of pasta and rice, and presumably reflects eating habits influenced by

Mediterranean and Asian cooking. Finally, the sixth factor (named 'Breakfast') is positively associated with intake of porridge, oatmeal, milk, yoghurt, jam and honey. The results of the factor analyses were consistent for men and women, and in the four age groups considered, and thus score levels and trends refer to scales with a mean of zero and a standard deviation of 1.

Statistical methods

All data analyses were performed separately for men and women. To quantify trends, we exploited the dispersion in calendar time of data caused by the duration of the surveys (15, 10 and 13 months, respectively) and aimed at achieving parsimony in the number of parameters reported. We used linear regression models with dichotomised responses (eg smoking = 0 or 1) as dependent variables and years elapsed between 1st November 1982 and the time a participant was examined as the independent variable of interest, ie the regression parameters estimate trends in the proportions of individuals with $Y = 1$ (eg smokers). Models were designed to test, first, if age-specific trends were approximately linear for the whole time period from 1982 to 1992, and second, if trends were similar among age groups to allow regression coefficients across age groups to be estimated. The latter was done by including time \times age interaction terms in the models and testing the hypotheses that they did not contribute significantly to between-subjects-effects. If trends deviated among age groups, the analysis was split accordingly. Dietary factor scores derived by factor analysis showed both variance heterogeneity and heterogeneity in trends across age groups. The age-specific score means are shown in the Appendix, and in Figures 1 and 2 we only show the trends for the pooled

data. Statistical analyses were performed using SPSS version 9.0 (SPSS Inc., USA).

Results

Trends for men

Table 1 shows the distributions of the 3378 men by age and survey, and by smoking habit, alcohol intake and healthy eating index, respectively.

Smoking. The percentages of current smokers declined 1.6% (95% CI 1.1% to 2.1%) per year for all men. This was due, first, to an increasing prevalence of never-smokers and then to an increasing prevalence of ex-smokers.

Thirty-nine percent of all men were heavy smokers in 1982–4 and 47% were cigarette smokers (data not shown in the table). These percentages also declined, but less than smokers in general—0.6% (95% CI 0.1% to 1.1%) per year and 0.5% (95% CI 0.04% to 1.0%) per year, respectively. The percentage of heavy cigarette smokers (29% of all men in 1982–4) did not change significantly.

Alcohol. Intake only changed significantly among 30-y-old men. Average consumption declined—those with no intake rose 0.7% (95% CI 0.3% to 1.2%) per year, whereas those with a high intake declined 1.3% (95% CI 0.6% to 2.0%) per year. The percentage of wine drinkers rose 0.9% (95% CI 0.3% to 1.5%) per year among 60-y-olds (from 8% in 1982–4 to 15% in 1991–2), but did not change in younger age groups (data not shown in the table).

Dietary habits. Except among 30-y-olds, the percentage of men with a low healthy eating index declined 1.8% (95% CI 1.2% to 2.4%) per year and those with a high index rose 1.0% (95% CI 0.6% to 1.5%) per year.

Table 1 Distributions (%) of men by categories of smoking habits, alcohol intake and healthy eating index in the three DAN-MONICA surveys

Age		Smoking			Alcohol intake			Healthy eating index				
		I	II	III	I	II	III	I	II	III		
30	Current smoker	61	52	42	No intake	3	7	9	Low	62	61	55
	Ex-smoker	14	9	19	Low intake	78	75	84	Average	26	25	32
	Never smoker	25	39	39	High intake	18	18	7	High	12	14	13
40	Current smoker	56	51	45	No intake	5	4	6	Low	65	60	49
	Ex-smoker	21	19	25	Low intake	74	74	77	Average	22	26	30
	Never smoker	22	30	29	High intake	21	22	17	High	13	14	21
50	Current smoker	63	52	52	No intake	6	5	5	Low	62	40	51
	Ex-smoker	25	21	24	Low intake	70	71	73	Average	26	37	31
	Never smoker	12	27	24	High intake	24	24	22	High	12	23	18
60	Current smoker	58	51	47	No intake	9	10	10	Low	58	42	45
	Ex-smoker	32	36	38	Low intake	77	76	75	Average	28	31	30
	Never smoker	10	13	15	High intake	14	13	16	High	14	27	25

The percentages of current smokers among non-attendees (21, 25 and 27% in the three surveys, respectively) were on the average about 25% higher than among attendees.

Figure 1 shows mean scores for the six dietary factors derived from factor analysis for all men in each survey (age-specific values are given in the Appendix). Scores for the 'Coarse bread' and 'Pasta and rice' factors both increased 7 (95% CI 6 to 8) $\times 10^{-2}$ points per year, ie about 0.7 standard deviations per 10 y. The score for 'Baked goods and sweets' increased 4 (95% CI 3 to 5) $\times 10^{-2}$ points per year. The score for 'Fruit and vegetables' did not change, whereas the score for 'Meat, potatoes and fat' declined 4 (95% CI 3 to 5) $\times 10^{-2}$ points per year and the score for 'Breakfast' declined 2 (95% CI 1 to 3) $\times 10^{-2}$ points per year.

Physical activity. Table 2 shows the percentages of men who were physically active at work and in leisure time, and the percentages that spent more than 2 h per week engaged in sports or exercise.

The percentage of 60-y-olds who were physically active at work increased 1.1% (95% CI 0.3% to 1.9%) per year, but remained largely constant among younger men. The percentages that were physically active in leisure time did not show statistically significant trends in any age group; nor did the joint distributions by physical activity level at work and in leisure time change (data not shown in the

table). However, more men (except among 40-y-olds) specifically engaged in sports or exercise—the percentage increased 1.4% (95% CI 0.4% to 2.5%) per year among 30-y-olds and 0.9% (95% CI 0.3% to 1.5%) per year among 50- and 60-y-olds.

Table 2 Percentages of physically active men in the three DAN-MONICA surveys

Age		I	II	III
30	Active at work	35	35	29
	Active in leisure time	37	38	45
	Sports & exercise	40	44	52
40	Active at work	29	29	31
	Active in leisure time	39	30	35
	Sports & exercise	39	29	39
50	Active at work	25	29	26
	Active in leisure time	33	27	33
	Sports & exercise	27	29	35
60	Active at work	15	18	24
	Active in leisure time	25	30	23
	Sports & exercise	16	22	23

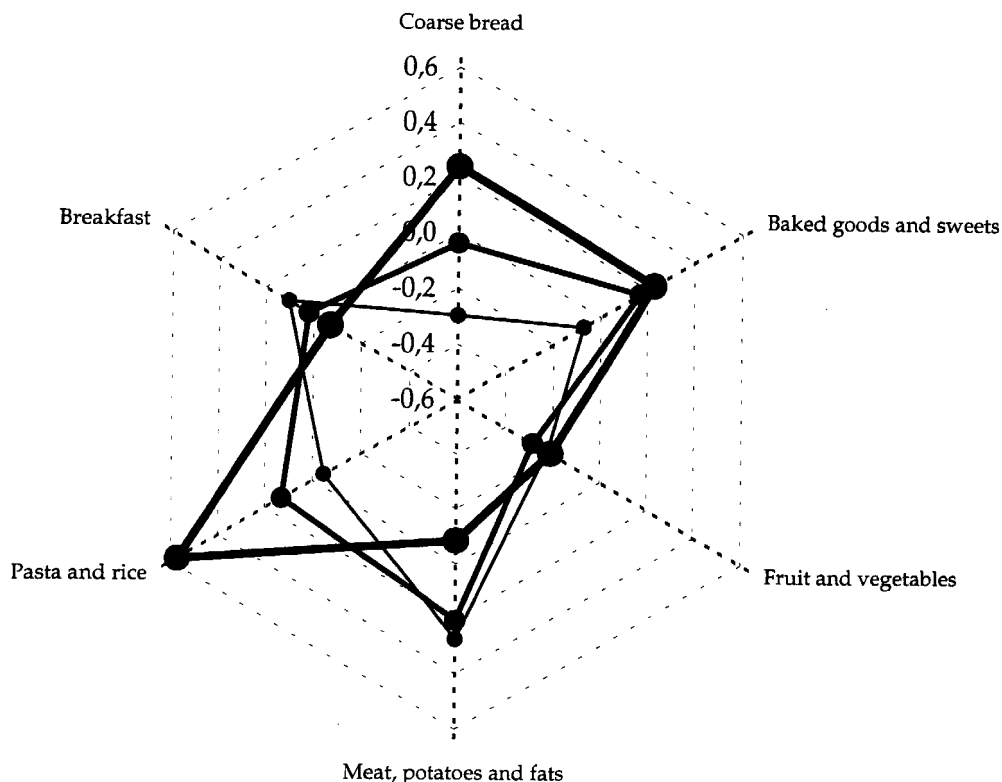


Figure 1 Data for men. Trends in mean scores of six multivariable dietary factors. Small, medium sized and large symbols correspond to DAN-MONICA I, II and III, respectively.

Trends for women

Table 3 shows the distributions of the 3317 women by age and survey, and by smoking habit, alcohol intake and healthy eating index, respectively.

Smoking. The percentage of current smokers declined 1.0% (95% CI 0.4% to 1.5%) per year, but only among women aged 30, 40 and 50 y. Among 60-y-olds the percentage of current smokers rose from 43 to 52%, corresponding to 0.9% (95% CI -0.1% to 1.9%) per year. This was due to an increase of 1.5% (95% CI 0.5% to 2.6%) per year of cigarette smokers (data not shown in the table).

The percentages of heavy cigarette smokers among women aged 30, 40 and 50 y (27% in 1982-4) did not decline, and among 60-y-olds the percentage doubled from 11% in 1982-4 to 23% in 1991-2, corresponding to an increase of 1.4% (95% CI 0.6% to 2.2%) per year (data not shown in the table).

Alcohol. As in men, the most marked trend in alcohol intake were seen in 30-y-olds, where the percentage with no intake increased 1.7% (95% CI 0.9% to 2.5%) per year. Among older women on the other hand, the percentage with a high intake increased 0.3% (95% CI 0.0% to 0.7%) per year. Wine-drinkers also became less prevalent among 30-y-olds (from 9% in 1982-4 to 2% in 1991-2), whereas the percentage rose 0.7% (95% CI 0.3% to 1.1%) per year in older women (from 11 to 18% in 40- and 50-y-olds and from 6% to 9% in 60-y-olds).

Dietary habits. The distribution of women by the healthy eating index was clearly more favourable than in men in the 1982-4 survey, and it also improved significantly (except in 30-y-olds). Thus, the percentage with a low index

declined 1.3% (95% CI 0.8% to 1.9%) per year and the percentage with a high index rose 1.5% (95% CI 0.9% to 2.0%) per year.

Figure 2 shows mean scores for the six dietary factors for all women in each survey (age-specific values are given in the Appendix). Survey-specific levels differ from the findings in men, notably for 'Coarse bread', 'Fruit and vegetables' and 'Meat, potatoes and fats', but show the same trends. Thus, scores for 'Coarse bread' and 'Pasta and rice' increased 6 (95% CI 5 to 7) $\times 10^{-2}$ and 8 (95% CI 7 to 9) $\times 10^{-2}$ points per year, respectively. The score for 'Baked goods and sweets' increased 3 (95% CI 2 to 4) $\times 10^{-2}$ points per year. The score for 'Fruit and vegetables' remained constant, whereas the score for 'Meat, potatoes and fat' declined 6 (95% CI 5 to 7) $\times 10^{-2}$ points per year and the score for 'Breakfast' declined 3 (95% CI 2 to 4) $\times 10^{-2}$ points per year.

Physical activity. Table 4 shows the percentages of women who were physically active at work and in leisure time, and the percentages that spent more than 2 h per week engaged in sports or exercise. Physically active at work remained largely constant in all age groups, whereas the percentage of physically active in leisure times increased 1.0% (95% CI 0.2% to 1.8%) per year among 30-y-olds. There were no changes in the joint distributions by physical activity level at work and in leisure times (data not shown in the table). The percentages among 50- and 60-y-olds specifically engaged in sports and exercises increased 0.7% (95% CI 0.0% to 1.3%) per year.

Discussion

This study indicates that behavioural traits associated with coronary risk showed favourable trends in the DAN-

Table 3 Distributions (%) of women by categories of smoking habits, alcohol intake and healthy eating index in the three DAN-MONICA surveys

Age		Smoking			Alcohol intake			Healthy eating index				
		I	II	III	I	II	III	I	II	III		
30	Current smoker	58	51	47	No intake	17	21	31	Low	42	38	35
	Ex-smoker	12	17	19	Low intake	77	74	65	Average	31	29	34
	Never smoker	30	33	33	High intake	6	5	4	High	27	33	31
40	Current smoker	47	39	44	No intake	18	15	18	Low	43	25	32
	Ex-smoker	11	13	21	Low intake	73	79	71	Average	32	32	29
	Never smoker	41	48	35	High intake	9	6	12	High	26	43	38
50	Current smoker	53	47	44	No intake	22	23	20	Low	40	23	30
	Ex-smoker	18	9	19	Low intake	70	66	69	Average	34	38	36
	Never smoker	29	44	37	High intake	8	10	11	High	26	38	34
60	Current smoker	43	47	52	No intake	30	31	26	Low	38	34	30
	Ex-smoker	21	17	20	Low intake	65	63	66	Average	33	29	29
	Never smoker	35	36	29	High intake	5	6	7	High	29	37	40

The percentages of current smokers among non-attendees (21, 25 and 27% in the three surveys, respectively) were on average about 25% higher than among attendees.

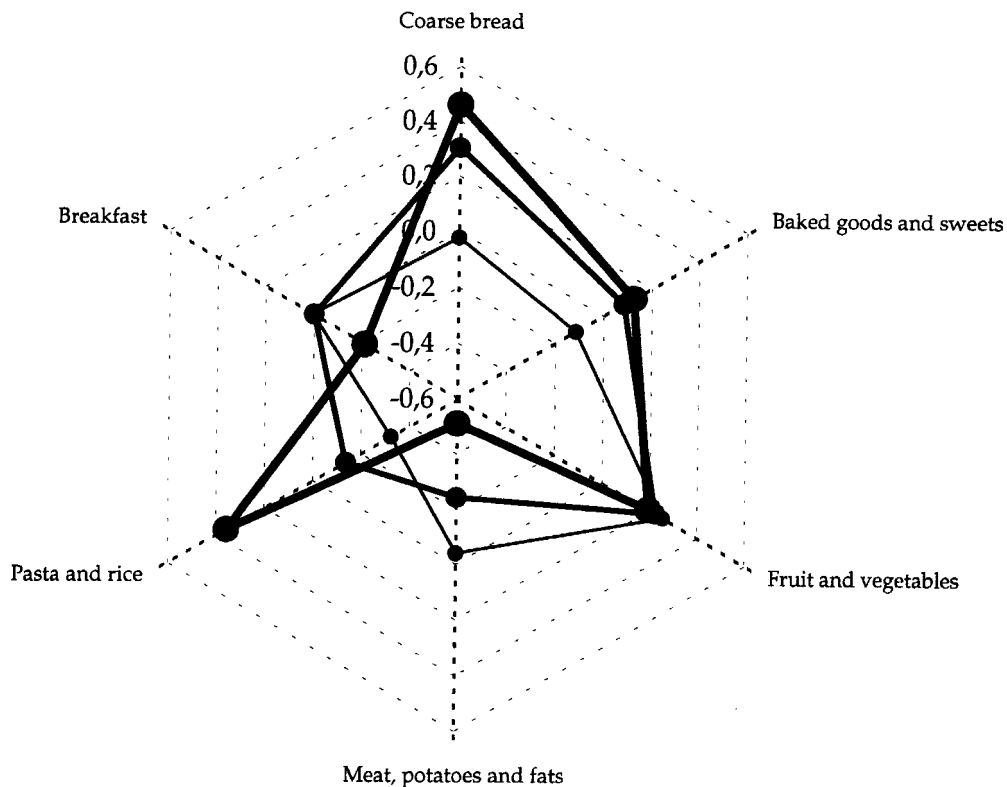


Figure 2 Data for women. Trends in mean scores of six multivariable dietary factors. Small, medium sized and large symbols correspond to DAN-MONICA I, II and III, respectively.

Table 4 Percentages of physically active women in the three DAN-MONICA surveys

Age		I	II	III
30	Active at work	14	22	17
	Active in leisure time	14	17	23
	Sports & exercise	33	29	33
40	Active at work	12	9	16
	Active in leisure time	20	18	20
	Sports & exercise	31	35	33
50	Active at work	14	15	16
	Active in leisure time	17	16	17
	Sports & exercise	26	27	31
60	Active at work	5	5	8
	Active in leisure time	17	17	19
	Sports & exercise	20	30	26

MONICA population during 1982 to 1992. In particular, smoking became less prevalent and dietary habits became more prudent.

The declining prevalence of smokers follows trends observed in Denmark at large,⁸⁻¹⁰ as well as in many

other countries.¹¹ The potential impact on MI incidence rates is noteworthy, albeit not dramatic. If smoking is a causal factor, then the relative change in incidence rate from period *a* to period *b* due to a change in prevalence of smokers from p_a to p_b can be approximated as $(I_a - I_b)/I_a \approx (p_a - p_b)/[(RR - 1)^{-1} + p_a]$, where RR is the rate ratio (relative risk) for smokers vs non-smokers. For example, if smoking is associated with a relative risk around 2¹² and the prevalence of smokers declines from 60% to 50%, the MI incidence rate would decline about 6%. Hence, the declining prevalence of smoking men in the DAN-MONICA population during 1982 to 1992 can at most explain 10–15% of the decline in MI incidence rate of about 5% per year.^{1,13} Moreover, at least two qualifying considerations are needed. First, the prevalence of current smokers declined more markedly in the early 1980s than later in the decade and mostly due to an increased prevalence of never-smokers. Thus, cohort effects are in play and may confound estimates of the impact of changing smoking habits. Second, the prevalence of heavy smokers declined less during the period, and the prevalence of heavy cigarette smokers did not change—or even rose among 60-y-old women. Heavy smokers are at particularly high risk of MI¹² and these findings thus reduce the potential impact

on MI incidence rates of the decline in prevalence of smokers at large.

A moderate daily consumption of alcohol, notably wine, seems to protect against coronary disease.^{14–18} We were not able to detect an increased prevalence of regular alcohol consumers as a possible contribution to the declining incidence of MI. However, wine drinking became more prevalent among 60-y-old men and 40–60-y-old women, and this may have contributed little to the declining incidence. For instance, if we assume that the relative risk for MI in wine-drinkers is about 0.5,¹⁵ the increase from 8% to 15% wine-drinkers among 60-y-old men could have reduced the incidence rate with about 3.5%.

Physical activity level is associated with coronary risk.^{19,20} More 60-y-old men became physically active at work and more young women in leisure times, but activity levels were apparently constant in other subgroups. It seemed, however, that the percentages of 50- and 60-y-olds who specifically engaged in sports or exercises increased during the period, albeit not markedly.

Trends in dietary habits of the DAN-MONICA population have previously been analysed at the level of individual food items.⁴ In the present study, we used a summary index of overall diet quality as well as factors derived by principal component analysis. The latter method is not very commonly used in nutritional epidemiology, but has been used successfully with dietary data of different kinds.^{21–25} It is perhaps not ideal for ordinal data,⁶ but our findings were nevertheless surprisingly consistent when data were split by gender and age. The six derived factors were also easy to interpret and explained about 45% of the total variation in frequencies of intake of 23 common food items.

Changes in the distributions of both men and women by the healthy eating index suggest that dietary habits improved in the DAN-MONICA study population during the 1980s, but only as regards the few specific food items considered in calculating the index. The changes nevertheless correspond to some main findings in two larger Danish dietary surveys conducted in 1985 and 1995^{26,27} and trends in the scores derived by factor analyses also indicate that dietary habits indeed underwent profound changes in the period. It appears in particular that coarse bread, pasta and rice became much more frequently chosen food items at the expense of items of traditional Danish main meals.

It is puzzling that the changes in dietary habits do not seem to have systematically influenced serum cholesterol levels in the study population. Mean total cholesterol and LDL cholesterol tended to increase from 1982–84 to 1986–7 and then to decline from 1986–7 to 1991–2, and thus remained constant in both men and women over the whole period,² whereas one could have expected an overall declining trend.^{28,29} However, although it may add to severe difficulties with estimating the contribution of the dietary changes to the declining incidence of MI, the apparent discordance does not detract from the assumption

that the changes in dietary habits may have had a beneficial impact on cardiovascular risk, since effects of dietary habits are not necessarily related to serum lipid levels.³⁰

In conclusion, lifestyle in the DAN-MONICA population changed in several ways that may have contributed to the markedly declining incidence of MI during the 1980s. However, it is difficult or even impossible to obtain fair estimates of the contributions of the observed changes, and thus we cannot exclude important influences of other factors.

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Appendix I Data for men. Age-specific mean scores of six multivariable dietary factors in the three DAN-MONICA surveys

Age		I	II	III
30	Coarse bread	– 0.15	0.07	0.42
	Baked goods and sweets	0.29	0.48	0.67
	Fruit and vegetables	– 0.37	– 0.33	– 0.55
	Meat, potatoes and fats	0.28	0.18	– 0.10
	Pasta and rice	0.37	0.55	1.11
	Breakfast	0.10	0.00	– 0.14
40	Coarse bread	– 0.27	0.10	0.32
	Baked goods and sweets	– 0.13	0.07	0.33
	Fruit and vegetables	– 0.16	– 0.32	– 0.16
	Meat, potatoes and fats	0.36	0.43	– 0.02
	Pasta and rice	0.09	0.21	0.78
	Breakfast	0.11	– 0.06	– 0.02
50	Coarse bread	– 0.28	– 0.14	0.21
	Baked goods and sweets	– 0.22	– 0.05	– 0.10
	Fruit and vegetables	– 0.21	– 0.29	– 0.07
	Meat, potatoes and fats	0.29	0.12	– 0.07
	Pasta and rice	– 0.26	– 0.05	0.39
	Breakfast	0.05	– 0.03	– 0.12
60	Coarse bread	– 0.50	– 0.33	0.01
	Baked goods and sweets	– 0.23	0.07	– 0.01
	Fruit and vegetables	– 0.16	– 0.12	– 0.06
	Meat, potatoes and fats	0.16	– 0.02	– 0.16
	Pasta and rice	– 0.40	– 0.52	0.00
	Breakfast	0.14	0.28	– 0.01

Appendix II Data for women. Age-specific mean scores of six multivariable dietary factors in the three DAN-MONICA surveys

Age		I	II	III
30	Coarse bread	0.07	0.47	0.54
	Baked goods and sweets	0.11	0.43	0.54
	Fruit and vegetables	0.22	0.04	0.00
	Meat, potatoes and fats	0.03	– 0.18	– 0.34
	Pasta and rice	0.00	0.08	0.93
	Breakfast	0.09	– 0.08	– 0.29
40	Coarse bread	0.06	0.36	0.58
	Baked goods and sweets	– 0.20	0.06	0.09
	Fruit and vegetables	0.26	0.30	0.22
	Meat, potatoes and fats	0.01	– 0.19	– 0.38
	Pasta and rice	– 0.17	0.11	0.55
	Breakfast	– 0.14	0.03	– 0.28
50	Coarse bread	0.04	0.53	0.46
	Baked goods and sweets	– 0.16	– 0.15	– 0.06
	Fruit and vegetables	0.29	0.38	0.29
	Meat, potatoes and fats	– 0.04	– 0.17	– 0.55
	Pasta and rice	– 0.49	– 0.35	0.12
	Breakfast	0.04	– 0.04	– 0.25
60	Coarse bread	– 0.30	– 0.16	0.24
	Baked goods and sweets	– 0.22	– 0.17	– 0.09
	Fruit and vegetables	0.25	0.25	0.27
	Meat, potatoes and fats	– 0.17	– 0.45	– 0.81
	Pasta and rice	– 0.71	– 0.53	– 0.25
	Breakfast	0.03	0.11	– 0.01