

Research Article

Personal Health Practices and Patient Counseling of German Physicians in Private Practice

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We examined physicians' personal health behaviors and the influence on their patient counseling practices in a representative sample ($N = 414$) of physicians in private practice in Schleswig-Holstein, Germany. Physicians reported significantly better physical but poorer mental health compared to the general population (GP; $P > 0.01$). The majority presented with normal weight (47.9% male, 73.1% female physicians versus 24.5/41.0% GP) or overweight (47.5% male, 20.0% female versus 52.9/35.6% GP). Frequency of exercise and fruit and vegetable consumption was higher than in the GP. About 70% drank coffee or tea more than once a day, but only 13.2% of female and 21.8% of male physicians were current smokers (GP 20.1/30.5%). More than half (56.1%) usually or always counseled a typical patient on exercise versus nutrition (47.0%), weight (45.8%), smoking (39.9%), and alcohol (30.0%). Doctors with better personal exercise, nutrition, smoking, and alcohol behaviors counseled their patients significantly more often on related topics. Despite better physical health and health behaviors in these German doctors compared to the GP, there is room for improvement (smoking, overweight), which could be expected to positively influence the counseling practice and impact of doctors' role modeling on patients.

1. Introduction

Chronic, lifestyle-related diseases challenge health care systems worldwide with cardiovascular disease, chronic pulmonary disease, diabetes, and cancer accounting for about two-thirds of global mortality [1]. Lifestyle choices are critical for the prevention of these diseases [2]: WHO reports that the four leading risk factors for noncommunicable diseases are tobacco use, unhealthy diet, insufficient physical activity, and the harmful use of alcohol. Globally, tobacco causes almost six million deaths annually and alcohol 2.3 million. Insufficient exercise increases all-cause mortality 20 to 30%, and fruit and vegetable consumption is important to prevent obesity, cardiovascular disease, and gastrointestinal cancers [1].

For most patients in western societies, physicians in private practice are their first contact regarding their personal health practices. Studies have shown the importance of

doctors' recommendations for their patients' practices [3]. It has also been shown in North American studies that physicians have healthier habits than the general population and that doctors with the healthiest habits are more likely to counsel their patients about healthy lifestyle practices [4, 5]. In addition, physicians with healthier behaviors, who discuss it with their patients, are more believable and motivating regarding prevention [6, 7]. However, only about 16% of patient visits in US primary care included counseling on smoking, exercise, or diet [8].

In addition to the benefits for patients, healthy lifestyle practices for doctors may be important to prevent job-related stress and impairment for doctors themselves. Heavy workload, high responsibility, constant contact with ill and emotionally burdened people, and increased bureaucratization and administrative duties add to physicians' work-related stress and may lead to impairment and burnout [9–12].

Despite these multiple reasons to examine physician health, studies about personal healthy life style and counseling practices in Germany are limited. The aim of the present study was to examine health-related lifestyle practices of a representative sample of German physicians in private practice in Schleswig-Holstein and the correlation to their counseling practice. We hypothesized that (a) physicians have better personal health behaviors than the general population and that (b) physicians with better personal health behaviors counsel their patients more frequently than those with poorer health behaviors.

2. Materials and Methods

2.1. Sample Description. For this study we used data from the second wave (T2) of a longitudinal study. Initially a stratified (medical specialty), random sample of physicians was drawn from the Medical Association of Schleswig-Holstein. From a population of 3935 physicians (more than a third of all physicians in Schleswig-Holstein) [13], a sample of 900 was randomly selected. In 2010 at T2, 770 participants were still active and were included in the survey. Reminders to complete the survey were sent after four and eight weeks. To ensure anonymity, a random bar code was used to identify nonresponders. The study was approved by the Ethical Committee of the Medical Faculty of the University of Freiburg in a minimal risk review.

2.2. Measures. As a general measure for the quality of life we used the SF-12, developed from the original SF-36 Health Survey (<http://www.sf-36.org/tools/sf36.shtml>). The instrument is a self-report of subjective health and assesses physical functioning, role limitations due to physical and emotional health problems, freedom from bodily pain, general health perception, vitality, social functioning, and mental health. A summary score of physical and mental health can be calculated from these eight dimensions that account for more than 90% of the variance of the SF-36 results [14, 15].

For the evaluation of physicians' health-related lifestyle practices we used a set of items addressing exercise frequency, beverage consumption, fruit and vegetable consumption, and smoking. To compare these with the general population and other physician samples, most items were taken from the German national health survey or other international surveys of physicians [16, 17]. Items were coded on a five- or seven-point Likert scale with 1 = regularly/more than once a day to 5 or 7 = <1 time/week or never). Hours of sleep were queried directly. Items on personal preventive measures and clinical prevention counseling practice were taken from two large North American surveys, which took their personal prevention queries from Canadian (CCHS) and US (BRFSS) national surveys [16, 18]. Clinical preventive measures included physical examination, blood pressure measurement, breast and testicular examination, influenza vaccination, measurement of cholesterol, Hemocult test, mammography, and Papanicolaou smear (seven point-Likert scale 1 = at least once a year to 7 = never). In addition physicians were asked if they had a personal doctor (yes/no) and if they work when ill (1 = often to 4 = never). Regarding their

counseling practice, physicians were asked how often they counseled a typical patient on nutrition, exercise, weight, smoking cessation, and alcohol or ordered a cholesterol test or a mammogram (1 = never/seldom, 2 = sometimes, and 3 = usually/always).

2.3. Statistical Analysis. Data analyses were conducted with SPSS for windows Version 15.0 (SPSS Inc., Chicago, IL, USA). We report univariate statistics as means and standard deviations for continuous variables and percentages for categorical variables. For categorical variables, data were analyzed using χ^2 -tests. For continuous variables, data were analyzed using two tailed *t*-tests and analysis of variance in a general linear model (including adjustment for multiple testing). We calculated the mean of the two items on nutritional behavior and labelled physicians with a mean of <2.4 of combined fruit and vegetable consumption as high frequency consumption and the others as low. For alcohol consumption we used the median split of the mean scores of the three items.

3. Results

3.1. Basic Demographic and Employment Characteristics. The response rate was 53.8% (414/770). There were no significant differences in age and specialty between responders and non-responders, but a higher percentage of female physicians (61.3% versus 38.7%) participated ($P < 0.01$). The sample consists of 60% male and 40% female physicians. Consistent with the stratification, 35.5% were general practitioners and medical specialists and 29.0% surgical specialists. The mean age was 53.1 (SD 7.3) years.

3.2. Physicians' Personal Health Behaviors. Compared to reference samples of the general population, both male and female physicians had better physical but poorer mental health (SF-12; Table 1). Male physicians had significantly higher scores in physical health than their female colleagues but did not differ significantly in mental health. Very few physicians were underweight or obese (Table 1). The majority presented with normal (58%) or overweight (36.6%). A significantly higher proportion of female physicians had normal weight (73.1% female versus 47.9% male), and a lower proportion were overweight (20% female versus 47.5% male).

In total about 40% of physicians exercised two hours or more per week, about 50% exercised >0 to <2 h/week, and 11% never exercised (Table 2). The majority of physicians reported 6 h (38%) or 7 h (40%) sleep per night (mean male 6.5 h, SD 0.8, female 6.7 h, SD 0.9; n.s.).

Table 3 summarizes these physicians' eating, drinking, and smoking habits. Female physicians had a significantly more frequent intake of vegetables and fruit than their male colleagues. More than 90% of male and female physicians drank coffee or black tea at least once a day and about 70% more than once a day. More than 90% of male and female physicians consumed water (more than) once a day. A significantly smaller proportion of female physicians were current smoker (13.2% versus male 21.8%) and 55.9% of them had never smoked (male 40.4%).

TABLE 1: Health indices of German physicians in private practice.

	Men (%; $n = 243$)	Women (%; $n = 161$)	Total (%; $n = 404$)	P_{mf}
<i>Body mass index (BMI)</i>				<0.001
<18.5 kg/m ²	0.4	2.5	1.2	
≥18.5 to ≤25	47.9	73.1	58.0	
>25 to ≤30	47.5	20.0	36.6	
>30	4.1	4.4	4.2	
<i>Blood pressure (BP)</i> ($n_{male} = 163, n_{female} = 124$)				0.573
Syst ≤ 139, diast ≤ 89	92.0	94.4	93.0	
Syst 140–159, diast 90–99	7.4	5.6	6.6	
≥160/100	0.6	0.0	0.3	
<i>Physical health (SF-12)</i> Reference GP	M 52.0 (SD 6.5)** M 50.2 (SD 8.7)	M 50.1 (SD 7.6)** M 47.9 (SD 9.7)	M 51.3 (SD 6.9)** M 49.0 (SD 9.4)	0.009
<i>Mental health (SF-12)</i> Reference GP	M 48.3 (SD 9.7)** M 53.3 (SD 7.6)	M 47.7 (SD 10.3)** M 51.3 (SD 8.4)	M 48.1 (SD 9.9)** M 52.2 (SD 8.1)	0.587

** $P < 0.01$ to reference

m: male, f: female

M: mean, SD: standard deviation.

TABLE 2: Exercise and sleep habits of German physicians in private practice.

	Male (%) ($n = 229-242$)	Female (%) ($n = 153-160$)	Total (%) ($n = 382-402$)	P_{mf}
<i>Exercise</i>				0.132
>4 h/week	14.0	15.6	14.7	
2–4 h/week	25.2	25.0	25.1	
1–2 h/week	24.0	28.8	25.9	
<1 h/week	27.3	16.9	23.1	
No exercise	9.5	13.8	11.2	
<i>Sleep</i>				0.092
<6 h	7.8	8.5	8.2	
6 h	40.6	34.0	38.0	
7 h	41.0	38.6	40.1	
8 h	10.5	17.0	13.1	
9 h	0.0	2.0	0.8	

m: male, f: female.

More than 50% of male and female physicians had a physical examination in the last two years (Table 4). However, for almost 30% of male and 36% of female physicians it was more than 4 years ago or never. The gender differences here and in blood pressure checks (66% <1/year) were not significant.

While 75.6% of female physicians had a breast examination in the last two years by a clinician, only 30.8% of male physicians had a testicular examination. More than 60% of male and female physicians had an influenza vaccination or a cholesterol measurement in the last two years, but about 29% (vaccination) or 14% (cholesterol) never had one. Almost half of the male and female physicians never had a Hemocult test (42.2% male and 30.0% female physicians aged >50 never had one and 19.7% of male and 21.1% female physicians >50

years had one within the last year). Gender differences in vaccination, cholesterol, and Hemocult measurement rates were not significant. Sixty-three percent of all female physicians had a mammography within the last two years and 68% of those within fifty years and older. However, in this group 11% never had a mammography (not shown). More than 70% of female physicians had a Papanicolaou smear within the last two years (Table 4).

3.3. Physicians' Counseling Practices and Their Relationship to Physicians' Personal Health Behaviors. More than half of all physicians (56.1%) usually/always counseled a typical patient on exercise, 47.0% on nutrition, 45.8% about weight, 39.9% on smoking, 30.0% about alcohol, 28.1% on cholesterol, and 27.6% about mammography (Table 5). In all topics except mammography general practitioners reported significantly more frequently that they counseled usually/always than did medical or surgical specialists. Except for counseling on alcohol and ordering mammography there were no significant gender differences in counseling practice. In both of these topics, female doctors reported more often that they usually/always counseled a typical patient.

Physicians who exercised, consumed fruit and vegetables more frequently, did not smoke, and drank less alcohol counseled patients significantly more often about the related topics (Table 6). Descriptively those doctors with a normal body weight reported more frequently counseling usually/always on nutrition, weight, and exercise, but these correlations were not significant.

4. Discussion

This study examined quality of life and personal health behaviors of German physicians in private practice and, to our knowledge for the first time, the relation to their counseling practices.

TABLE 3: German physicians' eating, drinking, and smoking habits.

	Male (%) (n = 223–242)	Female (%) (n = 150–159)	Total (%) (n = 373–401)	P_{mf}
Diet				
<i>Salad, raw vegetables</i>				
(More than) once a day	58.0	70.7	63.0	0.009
(More than) once a week	39.4	26.0	34.0	
<once a week	2.7	3.3	2.9	
<i>Fresh fruit</i>				
(More than) once a day	63.7	82.7	71.3	0.001
(More than) once a week	31.8	15.3	25.2	
<once a week	4.5	2.0	3.5	
Drinking				
<i>Coffee/black tea</i>				
(More than) once a day	93.4	90.6	92.3	0.471
(More than) once a week	3.7	3.1	3.4	
(More than) once a month	0.8	1.9	1.2	
(Almost) never	2.1	4.4	3.0	
<i>Beer</i>				
(More than) once a day	17.9	1.9	11.6	0.000
(More than) once a week	37.9	10.8	27.1	
(More than) once a month	22.5	29.1	25.1	
(Almost) never	21.7	58.2	36.2	
<i>Wine</i>				
(More than) once a day	19.6	11.3	16.3	0.259
(More than) once a week	50.8	52.2	51.4	
(More than) once a month	20.4	27.7	23.3	
(Almost) never	9.2	8.8	9.0	
<i>Hard liquor</i>				
(More than) once a day	1.2	0.0	0.8	0.000
(More than) once a week	12.4	4.4	9.3	
(More than) once a month	40.2	28.5	35.6	
(Almost) never	46.1	67.1	54.4	
<i>Fruit and vegetable juice</i>				
(More than) once a day	58.1	39.2	50.6	0.004
(More than) once a week	27.4	32.3	29.3	
(More than) once a month	9.5	15.8	12.0	
(Almost) never	5.0	12.7	8.0	
<i>Water</i>				
(More than) once a day	92.1	92.4	92.2	0.049
(More than) once a week	5.8	7.0	6.3	
(More than) once a month	1.7	0.0	1.0	
(Almost) never	0.4	0.6	0.5	
Smoking				
Smoker	21.8	13.2	18.3	0.039
Former smoker	37.9	30.3	34.7	
Never smoked	40.4	55.9	46.7	

P_{mf} describes statistical significance between m: male and f: female.

TABLE 4: German physicians' personal clinical preventive measures.

	Men (%; n = 239–243)	Women (%; n = 159–161)	Total (%; n = 398–404)	P_{mf}
<i>Physical checkup</i>				
				0.346
<1 year	32.9	32.9	32.9	
1 to <2 years	21.8	19.3	20.8	
2 to <3 years	8.6	8.1	8.4	
3 to <4 years	7.8	3.7	6.2	
4 to <5 years	5.3	10.6	7.4	
≥5 years	14.8	16.8	15.6	
Never	8.6	8.7	8.7	
<i>Blood pressure check</i>				
				0.103
<1 year	63.1	70.8	66.2	
1 to <2 years	17.0	14.3	15.9	
2 to <3 years	6.2	4.3	5.5	
3 to <4 years	2.1	3.7	2.7	
4 to <5 years	2.1	3.1	2.5	
≥5 years	5.4	3.7	4.7	
Never	4.1	0.0	2.5	
<i>Breast or testicular examination (by clinician)</i>				
				>0.001
<1 year	19.6	56.9	34.5	
1 to <2 years	11.3	18.8	14.3	
2 to <3 years	10.4	10.6	10.5	
3 to <4 years	6.7	1.9	4.8	
4 to <5 years	3.3	3.1	3.3	
≥5 years	12.1	5.6	9.5	
Never	36.7	3.1	23.3	
<i>Influenza vaccine</i>				
				0.600
<1 year	55.1	46.6	51.7	
1 to <2 years	11.5	14.9	12.9	
2 to <3 years	2.5	2.5	2.5	
3 to <4 years	1.2	1.2	1.2	
4 to <5 years	1.2	1.9	1.5	
≥5 years	0.8	2.5	1.5	
Never	27.6	30.4	28.7	
<i>Cholesterol measurement</i>				
				0.432
<1 year	42.4	31.9	38.2	
1 to <2 years	21.8	23.1	22.3	
2 to <3 years	7.8	8.8	8.2	
3 to <4 years	5.8	5.6	5.7	
4 to <5 years	2.9	5.0	3.7	
≥5 years	7.0	8.8	7.7	
Never	12.3	16.9	14.1	
<i>Hemocult test</i>				
				0.996
<1 year	13.8	14.5	14.1	
1 to <2 years	13.0	13.2	13.1	

TABLE 4: Continued.

	Men (%; n = 239–243)	Women (%; n = 159–161)	Total (%; n = 398–404)	P_{mf}
2 to <3 years	7.5	8.2	7.8	
3 to <4 years	5.0	5.7	5.3	
4 to <5 years	4.6	5.7	5.0	
≥5 years	6.7	6.9	6.8	
Never	49.4	45.9	48.0	
<i>Mammogram</i>				
	N/A			
<1 year		40.7		
1 to <2 years		22.2		
2 to <3 years		9.3		
3 to <4 years		2.5		
4 to <5 years		2.5		
≥5 years		3.7		
Never		19.1		
<i>Papanicolaou smear</i>				
	N/A			
<1 year		50.0		
1 to <2 years		23.8		
2 to <3 years		6.9		
3 to <4 years		5.6		
4 to <5 years		4.4		
≥5 years		6.3		
Never		3.1		
<i>Working when ill (presenteeism)</i>				
				0.158
Often	11.7	17.3	13.9	
Sometimes	27.5	32.7	29.6	
Seldom	36.7	29.0	33.6	
Never	24.2	21	22.9	
<i>Personal doctor</i>				
				1.000
Yes	31.7	31.7	31.7	
No	68.3	68.3	68.3	

P_{mf} describes statistical significance between m: male and f: female.

4.1. Physicians' Personal Health Behaviors. Physicians reported significantly better physical health (SF-12) compared to the general population (GP) [19]. Consistent with this finding and our first hypothesis, physicians typically consumed fruit and vegetables and drank water more frequently than the general population, women did so to a significantly higher proportion than men [20]. Three-fourths of these physicians consumed water at least daily, and a much lower proportion than in the general population reported no water consumption (0.5% physicians versus 9% male GP, 5% female GP) [21].

Almost half (47.9%) of male physicians and 73.1% of female physicians (versus 24.5% of German GP men and 41.0% German GP women) [22] reported a normal body-weight, and far fewer were obese (4.1% of male physicians versus 22.5% GP men and 4.4% of female physicians versus

TABLE 5: Relationship between German physicians' gender and speciality and their related counseling habits in private practice.

Counsels a typical patient on	Total (%; n = 373–401)	Male (%; n = 226–243)	Female (%; n = 147–158)	P_{mf}	GP (%; n = 139)	Medical (%; n = 123)	Surgical (%; n = 113)	$P_{Specialty}$
<i>Nutrition</i>				0.269				0.000
Never/rarely	6.9	7.9	5.7		2.8	7.6	11.2	
Sometimes	46.1	47.9	42.0		35.9	40.7	65.5	
Usually/always	47.0	44.2	52.2		61.4	51.7	23.3	
<i>Exercise</i>				0.228				0.000
Never/rarely	4.2	4.5	3.8		2.8	3.4	6.8	
Sometimes	39.7	42.8	34.8		27.6	34.9	60.7	
Usually/always	56.1	52.7	61.4		69.7	61.6	32.5	
<i>Weight</i>				0.133				0.000
Never/rarely	4.7	3.3	7.0		2.8	4.1	7.7	
Sometimes	49.5	52.3	44.9		40.7	42.5	69.2	
Usually/always	45.8	44.4	48.1		56.6	53.4	23.1	
<i>Smoking</i>				0.914				0.000
Never/rarely	15.5	15.8	14.3		5.5	20.7	21.6	
Sometimes	44.6	45.0	45.5		38.6	40.7	56.9	
Usually/always	39.9	39.2	40.3		55.9	38.6	21.6	
<i>Alcohol</i>				0.013				0.000
Never/rarely	16.6	15.3	18.2		4.1	17.0	31.6	
Sometimes	53.3	59.5	44.8		51.7	46.1	64.1	
Usually/always	30.0	25.2	37.0		44.1	36.9	4.3	
<i>Cholesterol</i>				0.928				0.000
Never/rarely	46.7	46.4	48.0		8.4	59.7	79.1	
Sometimes	25.3	25.3	23.6		30.1	29.9	13.9	
Usually/always	28.1	28.3	28.4		61.5	10.4	7.0	
<i>Mammogram</i>				0.005				0.000
Never/rarely	51.6	57.5	42.2		21.6	81.9	54.4	
Sometimes	20.8	20.4	21.8		36.0	13.4	10.5	
Usually/always	27.6	22.1	36.1		42.4	4.7	35.1	

P_{mf} describes statistical significance between m: male and f: female.

23.3% GP women). While the proportion of overweight female physicians also differed markedly from the GP (20% versus 35.6%) the differences were less prominent for male physicians (47.5% male physicians versus 52.9% male GP). Compared to a Canadian sample a slightly higher proportion of German doctors had normal body weight (58% versus 54%) and a lower proportion was obese (4% versus 8%) [16]. Given the high risk of overweight and obesity as risk factor for illness and mortality [23, 24], male physicians appear to be an important group for preventive measures. An obvious target for intervention may be to increase male physician's fruit and vegetable consumption to reduce overweight [25] and prevent illness [26].

The World Health Organization recommends at least 150 min of exercise with moderate intensity per week [27]. Preventive effects on various diseases and all-cause mortality

have been described [28, 29]. In our study, physicians exercised more regularly than the GP; 14.0% of male and 15.6% of female physicians exercised >4 hours/week versus 10.5% male and 5.1% of females in the GP [30]. About one-fourth of male and female physicians exercised two to four hours a week (versus 13.0% of males and 10.3% females in the GP). While about 40% of the physicians in our study performed around or above the WHO minimum, more than 60% did not.

Physicians were less likely to smoke than the GP (18.3% versus 30%), but still 21.8% of male physicians (versus 34% among male GP) and 13.2% of female physicians (versus 26% among female GP) were current smokers [20]. Consistent with these findings, Lampert reported from the German 2005 microcensus the smoking rate of 19.1% smokers among physicians [31]. However, this was a much higher percentage

TABLE 6: Physicians' personal health behaviors and their related counseling habits.

Independent variables	Never/rarely %	Sometimes %	Usually/always %	Total n (%)	P
<i>Doctors' exercise habits versus their patient exercise counseling</i>					0.007
2 h to \geq 4 h	2.4	32.1	65.5	165 (40.5%)	
\leq 1-2 h	6.1	42.6	51.3	197 (48.4%)	
Never	2.2	55.6	42.2	45 (11.1%)	
<i>Doctors' BMI versus doctors' counseling patients on nutrition</i>					0.816
$<18.5 \text{ kg/m}^2$	0.0	60.0	40.0	5 (1.3)	
≥ 18.5 to ≤ 25	6.9	44.2	48.9	231 (57.8)	
>25 to ≤ 30	8.2	47.6	44.2	147 (36.8)	
>30	0.0	52.9	47.1	17 (4.3)	
<i>Doctors' BMI versus doctors' counseling patients on weight</i>					0.234
$<18.5 \text{ kg/m}^2$	0.0	100.0	0.0	5 (1.2)	
≥ 18.5 to ≤ 25	4.7	46.4	48.9	233 (58.0)	
>25 to ≤ 30	4.8	51.0	44.2	147 (36.6)	
>30	5.9	64.7	29.4	17 (4.2)	
<i>Doctors' BMI versus doctors' counseling patients on exercise</i>					0.590
$<18.5 \text{ kg/m}^2$	0.0	60.0	40.0	5 (1.2)	
≥ 18.5 to ≤ 25	3.4	40.3	56.2	233 (58.0)	
>25 to ≤ 30	6.1	36.7	57.1	147 (36.6)	
>30	0.0	52.9	47.1	17 (4.2)	
<i>Doctors' fruit and vegetable consumption and counseling on nutrition</i>					0.001
High	4.8	41.0	54.2	227 (59.6)	
Low	9.7	54.5	35.7	154 (40.4)	
<i>Doctors' fruit and vegetable consumption and counseling on weight</i>					0.065
High	3.9	45.6	50.4	228 (59.7)	
Low	5.2	56.5	38.3	154 (40.3)	
<i>Doctors' fruit and vegetable consumption and counseling on exercise</i>					<0.001
High	3.9	32.5	63.6	228 (59.7)	
Low	4.5	51.9	43.5	154 (40.3)	
<i>Doctors' smoking behavior and counseling on smoking</i>					0.012
Smoker	22.4	53.7	23.9	67 (17.8)	
Nonsmoker	13.6	44.0	42.4	309 (82.2)	
<i>Doctors' alcohol consumption and counseling on alcohol</i>					0.047
Low (median split)	18.7	47.2	34.2	193 (48.3)	
High (median split)	15.0	59.4	25.6	207 (51.8)	

than has been reported by US (4%) [32–34] and Canadian physicians (3.3%) [16] and Swiss primary care physicians (12%) [35].

The majority of physicians reported receiving clinical preventive measures like physical checkup, blood pressure check, and influenza vaccination within the last two years. However, the proportion of those who failed to do so within the last 5 years or ever did so was not small, and two-thirds of these physicians reported that they had no regular personal doctor. This supports the findings of other physician and medical student studies, showing good but not exemplary screening habits and lack of personal doctors [16, 34, 36–38]. Physicians may be especially aware of the limitations of medical practice, fear loss of confidentiality and negative consequences of personal weakness or illness, and tend to self-diagnose and self-prescribe [39, 40]. Doctors also tend to work despite

being ill [41]. Compared to Canadian physicians (11%) [16] a higher percentage of the German physicians (23%) reported that they never work when ill, but 44% work when ill at least sometimes. Medical culture should better encourage physicians to take the time to rest to cure illness for their personal health and also to prevent contagion and be a role model for patients and employees [42, 43].

Differences of the large-scale Canadian Physician Health Study [16] were also seen with a higher frequency of influenza vaccination within the last year in Canadian physicians (75% Canadian versus 52% German). Low influenza vaccination rates in German health care workers have been reported before [44, 45], but at least in physicians of this northern state of Germany rates appear to have increased. However, 29% of German physicians (versus 9% of Canadian physicians) reported that they never have received this intervention

(recommended annually by the German “Ständige Impfkommission (STIKO)” for health care professionals).

4.2. Physicians’ Counseling Practices and Correlations with Their Personal Health Behaviors. Physicians’ preventive advice can substantively improve patients’ health behaviors [46–48], but this often-effective clinical practice is performed infrequently. Only about 16% of patient visits in US primary care included counseling on smoking, exercise, or diet [8], and only one-third of obese patients reported that this has been addressed by their physician [49]. In a study on fostering smoking cessation in private practice, only 42% of German patients reported that doctors have ever addressed their smoking behavior, and only 27% had received such advice in the past year [50].

In our study most of these physicians counseled their patients on nutrition, exercise, or weight at least sometimes, but there was a higher percentage of physicians who never counseled on smoking and alcohol. Given that smoking is the most important preventable health risk factor [51, 52], the proportion of male physicians (22%) who were current smokers and the 16% who never counseled a typical patient on smoking would be particularly important targets for improvement.

The same was true for these German physicians’ patient screening practices. After a long and controversial public and scientific discussion, a quality-assured mammography screening program was introduced in Germany in 2005. Women, aged 50 to 69 years, are invited every two years to a mammogram [53]. However, the debate continues about the actual effect on mortality reduction and about false positive/negative results and the overtreatment of small cancers [54–56]. Biesheuvel et al. [56] report that despite all public efforts the attendance rate is low (53%). For them one reason might be the controversies in the ongoing discussion that might also be reflected in the high proportion of physicians that never order a mammography in our data. Consistent with prior literature [57] our findings demonstrate that women physicians were more likely than the female general population to participate—about two-thirds (63%) of female physicians had a mammography (68% age 50 and older)—and to order a patient mammogram.

The higher prevention counseling frequency reported here of female physicians is supported by findings of US and Canadian studies [6, 57–59]. While male physicians focus more on medical history taking and physical examination, female physicians counsel more frequently on preventive issues and psychosocial problems [57, 60]. Likewise, and consistent with our results, primary care physicians have been found to counsel more frequently on preventive issues than specialized colleagues [58].

The most important finding of our study was that (as hypothesized) physicians who exercised, were non-smokers, ate fruit and vegetables more frequently, and drank alcohol less frequently were significantly more likely to counsel their patients on these topics. This is consistent with the results in Canadian and US physicians who report a strong, consistent and positive relationship between personal and clinical prevention practices for smoking, drinking, alcohol,

exercise, fruit and vegetable consumption, and BMI [18, 58, 61].

4.3. Strength and Limitations. We examined a representative sample of physicians in private practice in one federal state of Germany, so our results may not be representative of all German physicians. Compared to other physician survey’s response rates (41% [16], 49% [34], 31% [62]) the response rate was good (54%), particularly among the important and growing cohort of women physicians, though certainly still susceptible to a response bias. An adjustment for multiple testing was provided in the general linear model but not in the cross-tabulations. Since the results are based on self-reported data, more objective measures would be valuable.

5. Conclusions

Physicians in private practice in Schleswig-Holstein consistently reported better personal health behaviors than the general population, though some critical areas warrant attention, especially smoking and overweight in male physicians and screening practices in both genders. Counseling rates overall had considerable room for improvement (especially among surgeons), but those with better personal health behaviors counseled patients more frequently about various health issues than those with poorer personal health behaviors. Since doctors are important advisors and role models for their patients, health promotion for physicians in these areas should be fostered.

Conflict of Interests

The authors declare that there is no conflict of interests.

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