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Psychosocial and professional characteristics of burnout in Swiss primary care practitioners: a cross-sectional survey

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Summary

Objective: To measure the prevalence of burnout and explore its professional and psychosocial predictors among Swiss primary care practitioners.

Methods: A cross-sectional postal survey was conducted to measure burnout, work-related stressors, professional and psychosocial characteristics among a representative sample of primary care practitioners. Answers to the Maslach burnout inventory were used to categorize respondents into moderate and high degree of burnout.

Results: 1784 physicians responded to the survey (65% response rate) and 1755 questionnaires could be analysed. 19% of respondents had a high score for emotional exhaustion, 22% had a high score for depersonalisation/cynicism and 16% had a low score for professional accomplishment; 32% had a high score on either the emotional exhaustion or the depersonalisation/cynicism scale (moderate degree of burnout) and 4% had scores in the range of burnout in all three scales (high degree of burnout). Predictors of moderate burnout were male sex, age 45–55 years and excessive perceived stress due to global workload, health-insurance-related work, difficulties to balance professional and private life, changes in the health care system and medical care uncertainty. A high degree of burnout was associated with male sex, practicing in a rural area, and excessive perceived stress due to global workload, patient's expectations, difficulties to balance professional and private life, economic constraints in relation to the practice, medical care uncertainty and difficult relations with non-medical staff at the practice.

Conclusion: About one third of Swiss primary care practitioners presented a moderate or a high degree of burnout, which was mainly associated with extrinsic work-related stressors. Medical doctors and politicians in charge of redesigning the health care system should address this phenomenon to maintain an efficient Swiss primary care physician workforce in the future.

Key words: physician health; primary care; burnout

Introduction

Burnout is a state of mental exhaustion that affects human service professionals, like educators, job nurses and physicians, due to chronic emotional and interpersonal job related stressors. It was described in the 1970' by Freudenberger, a psychiatrist who suffered himself from burnout [1]. According to most common definitions, burnout encompasses three aspects: exhaustion, cynicism, and lack of personal accomplishment [2]. Exhaustion corresponds to feelings of being emotionally overwhelmed and exhausted by one's work and is generally referred to as emotional exhaustion. Cynicism, also called depersonalisation, refers to an impassive and impersonal response toward recipients of one's service, care, treatment, or instruction. Lack of personal accomplishment, or inefficacy, reflects the feeling of reduced competence and successful achievement in one's work with people. Burnout differs from depression because it involves only a person's relationship to his or her work, whereas depression globally affects a person's life [3].

Burnout is associated with decreased job performance and commitment [4, 5] and lower career satisfaction [6, 7], which can lead to worse quality of care when health professionals are affected [3]. The consequences of burnout are also potentially very serious for health workers, as burnout can lead

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to stress-related health problems, low morale, physical exhaustion, insomnia, increased use of alcohol and drugs, and increased family problems [2, 8, 9].

Burnout is frequent among physicians, with rates ranging from 25% to 76%, depending on the working conditions and medical specialty [10–14]. A survey of British consultants in gastroenterology, surgery, radiology and oncology showed a frequency of burnout varying from 27% (surgeons) to 35% (oncologists) for emotional exhaustion, from 19% (surgeons) to 28% (gastroenterologists) for depersonalisation, and from 32% (surgeons) to 49% (radiologists) for low personal accomplishment [10]. Among 151 US general internal medicine residents, the prevalence of burnout defined as a high score of depersonalisation or emotional exhaustion, was 76% [12]. In another survey of Italian community-based general practitioners and hospital-based physicians, higher levels of emotional exhaustion were found among general practitioners (32% *vs* 22%), whereas the proportion of respondents with high score of depersonalisation (27% *vs* 23%) and low score of personal accomplishment (13% *vs* 14) were similar [11].

To evaluate the current situation among primary care practitioners in Switzerland the College of Primary Care commissioned a study in 2001. With the financial support of the Swiss Academy of Medical Sciences, a survey was conducted to measure the rate of burnout and its association with psychosocial and professional characteristics, including specific work-related stressors.

Methods

Setting

At the time of the survey, the Swiss Medical Association (Federatio Medicorum Helveticorum) membership database included approximately 14 000 community-based physicians for a population of 7.2 millions. Approximately one half (7700, 55%) is considered as primary care physicians; the majority being general internists (40%), 34% general practitioners, 8% paediatricians, and 18% physicians without a speciality qualification. Regarding the organisation of care, the Swiss health care system has been qualified as a "regulated competition system without managed care" [15]. To achieve social solidarity, the Health Insurance Law of 1994 obliges households to purchase a comprehensive package of health benefits, which includes ambulatory treatment, inpatient care, home nursing care, and some health promotion activities. The basic health insurance coverage can be contracted from approximately 90 private insurance carriers, which are not allowed to earn profits from the mandated benefit package. Insurers can offer different health care provision plans based on the principle of a patients' free choice of physician ("any-willing-provider" or compulsory contracting) versus preferred providers' contracts (general practitioner-gatekeeper model or restricted network of providers). Restriction on the choice of the provider results in lower premiums for the patient. According to official statistics, in 2001, 45% of the insured chose the lowest permissible deductible and only 9% the highest; 8% chose a managed care policy, mainly the general practitioner-gatekeeper model. Under the 1994 Health Insurance Law, insurers were given more responsibility to control health care costs, resulting in increased competition, higher administrative burden, and decreased work autonomy for health care providers.

Sample and study design

A mail survey was conducted among primary care physicians working in Switzerland, during the spring of 2002. First all physicians certified as general practitioners, general internists, paediatricians and all physicians without a speciality qualification were identified through the membership database of the Swiss Medical Association. Second a random, non-stratified sample of 3000 primary care practitioners was selected. After exclusion of 3 deceased doctors, 8 doctors who had incorrect addresses, 15 doctors who did not practice clinical medicine and 218 who did not practice as primary care doctors, 2756 physicians remained eligible for the survey.

Measurement of burnout

The Maslach Burnout Inventory (MBI) [3] was used to measure burnout. This instrument has been found to be reliable, valid, and easy to administer among primary care physicians [16]. It has been used by several authors in different settings, allowing comparisons with others countries [10–13]. The MBI consists of 22 items (scored 0 to 6), representing three subscales: emotional exhaustion (nine items, maximal score 54), depersonalisation/cynicism (five items, maximal score 30) and personal accomplishment (eight items, maximal score 48). Based on a normative sample of 1104 North American medical professionals [3], each respondent can be classified into low, medium and high scores for each dimension. These three dimensions cannot be combined into a single summary variable. Yet to facilitate the analyses and interpretation, we defined respondents with a high score on either the emotional exhaustion or the cynicism subscales as physicians with a moderate degree of burnout andrespondents with high scores on both the emotional exhaustion and the cynicism subscales and a low score on the personal accomplishment subscale as physicians with a high degree of burnout [3].

Predictors of burnout

Determinants of burnout included socio-demographic (e.g. age, sex), work-related characteristics (medical specialty, practice location, type of practice, total work time per week) and stressors related to primary care. Stressors included 19 possible sources of professional stress (see table 2). This list was established based on a review of the medical literature [9, 17–20], experience of the authors and comments of colleagues who pre-tested an early version of the questionnaire. Respondents had to rate each stressor on a Likert scale ranging from 1 (not at all) to 5 (extremely) to what extent it was contributing to their currently perceived stress.

Questionnaire development, translation and pre-test

The initial questionnaire was developed in French and pre-tested among a small group of physicians for readability and acceptability. Three independent translations

in German and Italian were made by bilingual physicians and professional translators, and a final version was obtained by consensus. The translated questionnaires were also tested before their use. The validated French [21] and German [22] version of the MBI were also used. In the French (Canadian) version, we substituted the term "client" by "patient", more adapted to local usage. The validated Italian version [23] was not available at the time of the study. Therefore we used our own translation, based on the same procedure previously described. The reliability of this translated Italian MBI was satisfactory for the emotional exhaustion and inefficiency subscales and moderate for the cynicism subscale (Cronbach a: 0.88, 0.84 and 0.52 respectively).

This study was approved by the research ethics committee of the Institute of Social and Preventive Medicine at the University of Geneva.

Data analysis

The three subscale scores for the MBI were calculated, if anwers were obtained for at least half of the corresponding items. Subsequently descriptive statistics (mean, standard deviation (SD), quartiles) were performed. For stressors, we computed the answers distribution for each item. In addition, the answers to the 19 stressors were averaged if at least half of them were obtained, resulting in an overall stress score. We assessed the effect of response bias on the proportion of physicians with moderate and high degree of burnout in two different ways. First, we used post-stratification to estimate this type of bias across sex, age and medical specialty. Second, we computed a propensity score to respond to the survey based on sex, age, number of years in private practice and medical specialties, and correlated this score with the probability to present a moderate or high degree of burnout, based on the same set of predictors. To study the relationships between burnout across various socio-demographic and work-related characteristics, continuous variables (e.g. estimated total work time per week, perceived stress) were split into three discrete levels (lowest tertile, intermediate tertile and highest tertile) to examine the linearity of relationships. Cross-tabulations, χ^2 and linear trend tests were used when appropriate to test these relationships. Logistic regression was used to identify multivariate predictors of burnout and variables that were significant in univariate analyses were included in the multivariate model. A stepwise procedure, guided by the analyst, was used to identify variables for inclusion in the final model. We did not include perceived stress in the model, but preferred to include each stressor separately in order to identify which ones were relevant. To facilitate the interpretation of the results, answers to the contribution of the different stressors were dichotomised (1 to 3 vs 4 and 5) for the multivariate analyses. All statistical tests were two-tailed, with a significance level of 0.05.

Results

After the first mailing and three reminders, 1784 primary care physicians responded to the survey (65%). Of the 1784 available questionnaires, 29 had to be excluded because of missing answers to the MBI, leaving 1755 questionnaires for further analyses. Participating physicians were younger (age [years]: 50.8 vs 51.6, p <0.001) and more frequently men (83.6% vs 81.5%, p = 0.05), compared to the members of the Swiss Medical Association. General practitioners had a higher response rate (73%, p <0.001), when compared to internists (60%), paediatricians (68%), and physicians without specialty qualification (51%).

Seven percent of the remaining respondents were living alone and 85% were the principal economic support of their household (table 1). 48% were general practitioners, 34% internists, 9% paediatricians, and 9% physicians without a specialty qualification. 38% considered their premise to be located in an urban environment, 33% in a semi-urban, and 30% in a rural one. Two-thirds (63%) were in solo practice. The mean estimated total work time per week was 51.2 hours (SD 14.4; quartiles (25%ile – median – 75%ile): 44–52–60). The mean perceived stress score was 53.8 (SD 9.5; quartiles: 48–54–60).

Burnout

90% of respondents answered all 22 items of the MBI (n = 1584); 132 respondents had only 1 missing value, 24 respondents had 2 missing values, and 15 respondents 3 to 7 missing values. The mean score for the emotional exhaustion subscale was 17.9 (SD 9.8; quartiles: 10–17–24) and 19% had a high score (≥27). The mean score for the depersonalisation/cynicism subscale was 6.5 (SD 4.7; quartiles: 3–6–9) and 22% had a high score (≥10). The mean score for the personal accomplishment subscale was 39.6 (SD 6.5; quartiles: 36–41–45) and 16% had a low score (≤33), meaning high inefficiency. 32% (n = 553) of the physicians had a high score on either the emotional exhaustion or the cynicism subscales and were considered as having a moderate degree of burnout (figure 1); 3,5% (n = 62) had a high score on the emotional exhaustion and the cynicism subscales and a low score on the personal accomplishment scale, reflecting a high degree of burnout (figure 1).

Using post-stratification to estimate the size and direction of participation bias, the change was the most important for sex, as men had a higher participation rate, and reported more frequently a moderate or a high degree of burnout. In any case, differences did not exceed 1% (31.5% of moderate degree of burnout among respondents: post-stratification for sex: 32.2%; for age 31.2%, for medical specialty: 31.4%; respectively 3.5%, 3.7%, 3.5% and 3.4% for high degree of burnout). Second, we computed a propensity score to participate to the survey based on sex, age, linguistic region, number of years in private practice and medical specialties. We correlated this score with the probability to present a moderate or high degree of burnout, based on the same set of predictors. The Pearson correlation coefficients were moderate (moderate degree of burnout: 0.36; high degree

Table 1

Relationships of burnout to socio-demographic characteristics for 1755 Swiss primary care practitioners.

		physicians with moderate degree of burnout		physicians with high degree of burnout	
	N (%)	%	p-value	%	p-value
Sex			<0.001[1]		0.004[1]
male	1468 (83.6)	33.9		4.1	
female	287 (16.4)	19.2		0.7	
Age (years)			0.003[1]		0.19[1]
<45	411 (23.4)	30.9		2.2	
45–50	453 (25.8)	34.2		4.0	
51–55	438 (25.0)	34.5		4.8	
>55	453 (25.8)	26.5		3.1	
Living alone			0.82[1]		0.99[1]
yes	114 (6.5)	32.5		3.5	
no	1641 (93.5)	31.4		3.5	
Principal financial support of the household (10 missing)			0.003[1]		0.03[1]
Yes	1487 (85.2)	33.0		4.0	
No	258 (14.8)	23.6		1.2	
Medical speciality			0.003[1]		0.03[1]
General medicine	838 (47.7)	34.6		4.5	
General internal medicine	440 (25.1)	31.4		4.1	
Internal medicine subspecialties	149 (8.5)	28.9		1.3	
Pediatrics	163 (9.3)	19.0		1.8	
None	165 (9.4)	30.9		0.6	
Practice location (5 missing)			0.61[1]		0.006[1]
Urban	657 (37.5)	30.3		1.8	
semi-urban	575 (32.9)	31.7		4.0	
Rural	518 (29.6)	33.0		5.2	
Type of practice (6 missing)			0.68[1]		0.19[1]
Solo	1103 (63.1)	31.9		4.0	
Group (including private clinic and medical centre)	646 (36.9)	31.0		2.8	
Estimated total work time per week (24 missing)			<0.001[2]		<0.001[2]
lowest tertile (4–46.5 hours)	566 (32.7)	24.4		1.8	
intermediate tertile (47–56.5 hours)	582 (33.6)	31.8		3.1	
highest tertile (57–146 hours)	583 (33.7)	38.1		5.7	
Perceived stress (6 missing)			<0.001[2]		<0.001[2]
lowest tertile (19–50)	597 (34.1)	17.9		1.0	
intermediate tertile (>50–58)	585 (33.4)	30.6		2.7	
highest tertile (>58–84)	567 (32.4)	46.7		7.1	

[1] χ^2-test
[2] linear trend test

of burnout: 0.58) and positive, suggesting that participants were more likely to report a moderate or high degree of burnout. Based on this set of predictors, the predicted probability of moderate burnout among non- respondents was 30.5% (vs 31.5%), and 3.1% (vs 3.5%) for high degree of burnout.

Biopsychosocial and work characteristics associated with burnout

Physicians with a moderate degree of burnout were more frequently men than women, 45 to 55 year-old, the principal economic support of their household, general practitioners, working more hours per week and had higher perceived stress (table 1). Physicians with a high degree of burnout had the same characteristics, except for the difference across age categories. Working in semi-urban and rural environment was another risk factor to report a high degree of burnout.

Work-related stressors

Administrative workload, health insurance-related workload, image of medicine in the media,

and changes of the health care system were the most important sources of stress reported by the primary care physicians (table 2). Over 20% of the respondents considered that these factors contributed "extremely" to their current stress. In addition approximately 10% of the respondents considered difficulties to balance professional and private life and economic constraints in relation to the practice to contribute "extremely" to their current stress. At the other end of the spectrum relations with medical staff outside the practice and with non-medical staff in the practice, care of terminally ill patients and new information technologies were the least important sources of stress.

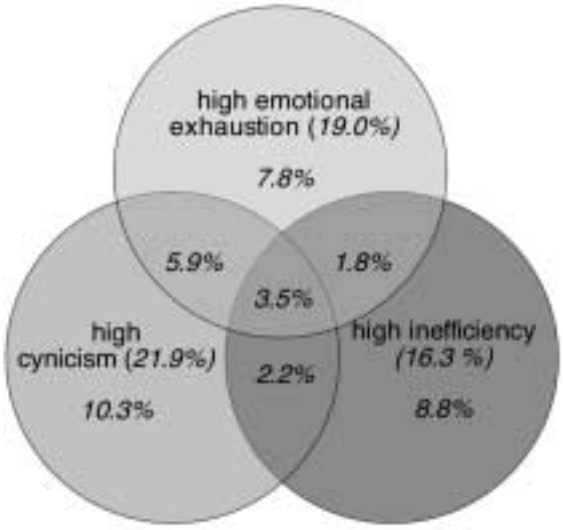

Figure 1
Distribution of answers on the three dimensions of the Maslach Burnout Inventory among 1755 Swiss primary care physicians.

Associations with burnout

In univariate analyses, all stressors were statistically associated with an increased risk of burnout (data not shown). In multiple logistic regression, the odds ratio to report a moderate degree of burnout was higher for men, respondents aged 45–55, respondent reporting excessive stress due to global workload, health insurance-related workload, difficulties to balance professional and private life, changes in the health care system, and medical care uncertainty (table 3). Together these factors explained 14% of the total variance in reporting a moderate degree of burnout. A similar set of predictors was also identified for a high degree of burnout: the risk was also higher for men, physicians practicing in rural areas, respondents reporting excessive stress in relation to global workload, patients' expectations, difficulties to balance professional and private life, economic constraints related to the practice, medical care uncertainty, and relations with non-medical staff at the practice. Together these factors explained 19% of the total variance in reporting a high degree of burnout.

Table 2
Distribution of work-related stressors among 1755 Swiss primary care physicians.

		answers distribution				
Currently perceived stress in relation to:	**Valid N**	**not at all (%)**		**…**		**extremely (%)**
a. Global workload	1742	4.9	19.1	34.5	32.7	8.7
b. Administrative workload	1748	3.3	11.7	24.0	37.6	23.3
c. Health insurance-related workload	1747	2.9	11.6	22.7	37.5	25.4
d. Patients' expectations	1746	3.0	18.9	34.2	36.3	7.6
e. Difficulties to balance professional and private life	1746	8.1	24.5	30.6	25.9	10.8
f. Image of medicine in the medias	1748	6.2	13.6	19.4	30.3	30.5
g. Changes in health care system	1747	3.3	11.2	22.4	38.3	24.8
h. Economic constraints in relation to the practice	1747	11.0	20.5	27.5	30.9	10.1
i. Difficulties with reimbursement of fees	1744	9.3	27.5	32.9	24.1	6.2
j. Fear of malpractice	1747	21.8	38.4	23.8	12.7	3.5
k. Attending continuing medical education	1747	15.1	33.3	31.3	17.9	2.5
l. Documenting continuing medical education	1742	16.3	28.0	25.4	21.6	8.7
m. Care of terminally ill patient	1704	35.2	37.0	16.3	9.2	2.5
n. Medical care uncertainty	1729	16.0	40.2	29.0	13.3	1.5
o. Medical emergencies at the practice	1743	12.1	34.7	29.7	19.6	3.9
p. Telephone consultations	1746	11.5	33.0	31.4	21.0	3.2
q. Relations with medical staff outside the practice	1743	34.7	41.7	19.0	4.2	0.4
r. Relations with non-medical staff at the practice	1739	47.8	35.7	12.0	3.5	1.1
s. New information technologies (internet, etc.)	1743	31.3	33.7	21.5	10.7	2.9

Table 3
Factors associated with a higher risk to report burnout among 1755 Swiss primary care physicians.

Moderate degree of burnout	OR (95% CI)	High degree of burnout	OR (95% CI)
Being a male physician	2.3 (1.7 to 3.3)	Being a male physician	5.8 (1.4 to 27)
Age between 45–55 years	1.4 (1.1 to 1.8)	Practice in a rural area	2.8 (1.3 to 5.7)
Excessive perceived stress due to:		*Excessive perceived stress due to:*	
Global workload	1.7 (1.3 to 2.1)	Global workload	2.2 (1.3 to 5.7)
Difficulties to balance professional and private life	1.8 (1.5 to 2.3)	Difficulties to balance professional and private life	2.2 (1.2 to 4.1)
Medical care uncertainty	2.1 (1.6 to 2.8)	Medical care uncertainty	3.1 (1.7 to 5.4)
Health insurance-related workload	1.4 (1.1 to 1.8)	Patients' expectations	2.2 (1.2 to 4.1)
Changes in the health care system	1.5 (1.2 to 1.9)	Economic constraints in relation to the practice	2.0 (1.2 to 3.5)
		Relations with non-medical staff at the practice	3.4 (1.4 to 8.2)

Table 4
Distribution of the three subscale scores of the Maslach Burnout Inventory burnout among medical doctors in different Western countries.

	mean emotional exhaustion score (SD)	mean depersonalisation / cynicism score (SD) score (SD)	mean personal accomplishment
Swiss primary care practitioners (spring 2002) (n = 1755)	17.9 (9.8)	6.5 (4.7)	39.6 (6.5)
Italian general practitioners (2000)[2] (n = 182) [11]	18.5 (11.5)	6.1 (5.9)	38.5 (7.6)
Dutch medical specialists (1998) (n=1573) [14]	15.5 (–)	7.4 (–)	27.3 (–)
American medical workers (physicians and nurses) (1996)[2] (n = 1104) [3]	22.2 (9.5)	7.1 (5.2)	36.5 (7.3)
British general practitioners (1993) (n = 245) [13]	26.1 (–)	9.8 (–)	32.7 (–)
American general internal medicine residents (2001) (n = 115) [12]	26.4 (–)	12.7 (–)	36.2 (–)
	High exhaustion score[1] (%)	**High depersonalisation / cynicism score[1] (%)**	**Low personal accomplishment score[1] (%)**
Swiss primary care practitioners (spring 2002) (n = 1755)	19	22	16
Swiss primary care physicians participating to a practice assessment program (2004)[2] (n = 252) [27]	9	24	14
Italian general practitioners (2000)[2] (n = 182) [11]	32	27	13
Italian hospital-based practitioners (2000)[2] (n = 146) [11]	22	23	14
British surgeons (1993–94) (n = 161) [10]	27	19	32
British gastroenterologist (1993–94) (n = 241) [10]	31	28	38
British radiologists (1993–94) (n = 214) [10]	33	21	49
British oncologists (1993–94) (n = 266) [10]	35	27	37
American general internal medicine residents (2001) (n = 115) [12]	53	64	31

[1] For medical professionals, high exhaustion is defined as an emotional exhaustion subscale score ≥27, high cynicism as a depersonalisation subscale score ≥10, and low efficacy as a personal accomplishment subscale score ≤33 [1].
[2] Corresponds to the year of publication, when information about the time of the survey is lacking.

Discussion

In this national survey of Swiss primary care practitioners, approximately a third presented a moderate degree of burnout, be it high emotional exhaustion or cynicism, and four percent a high degree of burnout. Male physicians, in the midst of their career, and reporting higher perceived stress in relation to global workload, health insurance-related workload, difficulties to balance profes-

sional and private life, changes in the health care system, and medical care uncertainty were at increased risk of reporting moderate degree of burnout. Except for age, health insurance-related workload, and changes in the health care system, a similar set of factors was found to predict physicians with high degree of burnout, with working in a rural environment, and excessive stress in relation to patients' demand, economic constraints in relation to the practice, and relations with non-medical staff as additional risk factors (table 3).

Extrinsic stressors, like health insurance-related workload and changes in the health care system were only related to the risk of reporting a moderate degree of burnout. These stressors, on which the physician has few or no control, may be considered as predisposing conditions for more severe or higher degree of burnout, as burnout is not conceptualized as absent or present, but rather as a continuum [3].

Stressors related with a high degree of burnout were numerous, representing the numerous responsibilities primary care physicians have to face in private and professional life. Medical care uncertainty, a stressor that has been already described as very important to the medical profession [24–26] was strongly associated with burnout in our study. On the other hand, other intrinsic risk factors like fear of malpractice, care of terminally ill patients, medical emergencies at the practice, and telephone consultations were not associated with burnout.

Comparison with other studies

Our results partially support the findings of other studies that showed that an age of 55 years or less, being single, high work-related stress, low satisfaction with relationships both in professional and private context, unsatisfactory working conditions and insufficient training in communication and management were predictors of burnout [10]. Other authors found low work control, high work-home interference, and lack of home support as additional predictors of burnout [9].

The comparison of the distribution of the three subscale scores of the MBI with other studies conducted among medical doctors in Western countries showed that Swiss primary care practitioners tended to present lower mean emotional exhaustion and cynicism scores and a higher personal accomplishment score (table 4). Swiss primary care physicians were also less often categorized in the highest tertile of emotional exhaustion and lowest tertile of personal accomplishment.

While comparison with hospital-based physicians in training [12] or specialists [10] may just be indicative of the importance of the problem relative to different working conditions, the comparison with general practitioners working in other European countries showed that the degree of burnout among the Swiss primary care physicians was rather low at the time of the survey [11, 13].

Finally, comparison with a convenience sample of Swiss primary care physicians taking part in a voluntary multidimensional practice assessment showed that these doctors tended to display a similar degree of cynicism and personal accomplishment, but much lower emotional exhaustion [27], which is regarded as the main component of burnout by some authors [28]. This is of interest because if burnout and quality care are linked [3], doctors who engage in quality of care programs may present a lower degree of burnout, which could positively influence the results of the assessment. Therefore, generalizing statements based on such assessments and derived benchmarks should be made with caution, unless case-mix models are established to adjust for this factor.

Future challenges

This portray will continue to evolve in the near future, as working conditions of the Swiss practitioners continue to change. In 2004 a national relative value scale for reimbursement (TARMED) by health insurances was introduced, resulting in important changes in physicians' income. In addition, as health care costs are still increasing, some actors of the health care system would like to have a better control on health care providers and revoke the patients' free choice of physician policy. Primary care physicians are extremely worried by this possible change, as it will again increase their financial uncertainty in the coming years.

Limitation and strength

The main limitation of our study is its cross-sectional nature, which precludes evaluation of temporality and causality of the observed relationships. Another limitation is the exclusive reliance on self-reported rating scales and psychosocial and professional characteristics, which raises the issue of measurement error, related to systematic positive or negative response tendencies.

On the other hand, our results were obtained among a large sample of primary care practitioners and are therefore representative for the country. The participation rate was excellent (65%), given that surveys among physicians rarely exceed 50%. The differential participation rates among eligible physicians across gender, age and medical specialty, resulted in a slight overestimation of rates of burnout, but the size of this effect was weak. Therefore, we believe, although we cannot completely exclude this type of bias, that our results represent a good estimate of the true prevalence among Swiss primary care physicians. Finally, the sample was also sufficiently large to allow exploration of even fairly weak associations.

Conclusion

There is a significant degree of burnout among primary care practitioners in Switzerland, although comparisons with other countries are still favourable. General practitioners in the midst of their career, who practise in non-urban areas, are at the highest risk for burnout.

Current approaches to deal with physician impairment in Switzerland are triggered by legal issues at a very late stage. It would be preferable to develop a policy based on healthy approaches to physicians' stress and prevention of impairment. We need to implement screening strategies coupled with help lines [29], workshops about stress management [30] and support programmes [27] for physicians in difficulty, and to develop physician health policies at the level of the medical associations, as this has been done in other countries (e.g. Australia, Canada, United Kingdom, USA) [8, 18, 20, 23, 29, 31–34]. Promotion of awareness regarding the degree of burnout within the medical profession and at the level of the individual physician is urgent, in order to maintain "the delights of working in health", and ensure a "burnished" Swiss primary care physician workforce in the future [35].

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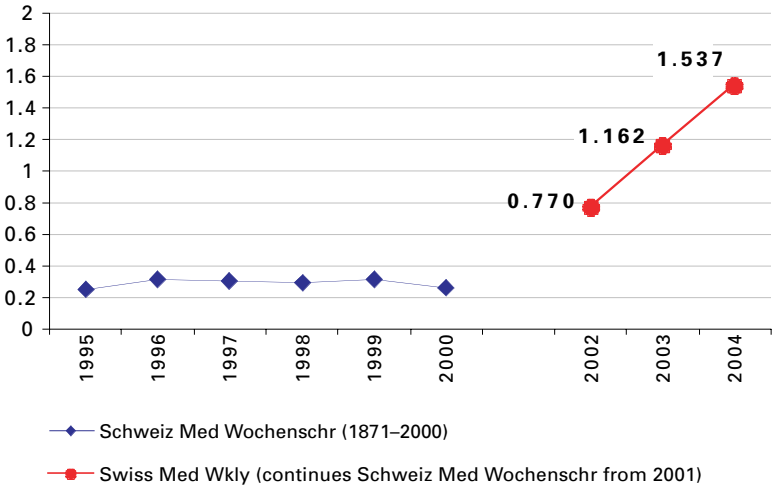

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