Burnout, psychological distress, and overwork: the case of Quebec's ophthalmologists

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ABSTRACT · RÉSUMÉ

Background: Studies have shown that physicians are subject to high stress levels that can lead to mental health problems. Ophthalmologists are facing particularly high pressures because of shortages in their number and lack of resources. This study describes the state of mental health of Quebec's ophthalmologists and identifies certain elements of their work environment and personal lives that may contribute to problems.

Methods: This cross-sectional study uses a self-report questionnaire that includes validated instruments, as well as instruments created for the study. A total of 133 out of 266 Quebec's ophthalmologists participated in the study.

Results: More than 35% of ophthalmologists reported high levels of burnout and psychological distress. The 5 main occupational stressors were growth in demand for services (49.2%), shortage of ophthalmologists (48.1%), amount of work to be done (45.4%), budgetary pressures (44.6%), and repeated training of new work teams (41.9%). Self-acceleration is the defensive strategy used most often to deal with work overload. Nearly half (47.4%) reported having problems reconciling work and personal life. The mean scores indicate that ophthalmologists received little recognition from administration.

Interpretation: Work overload and systemic organizational deficiencies are burdening ophthalmologists in Quebec. They constantly work harder to preserve their professional ideals but they receive little recognition from the administration. The levels of distress observed in this context point to the need for the authorities to take action to improve practice conditions. The situation is urgent because population aging has already begun to cause a sharp increase in demand, and younger physicians appear to be suffering most from work overload and burnout.

Contexte : Les études ont démontré que les médecins étaient soumis à de fortes tensions qui pourraient mener à des problèmes de santé mentale. Les ophtalmologistes doivent affronter des tensions particulièrement élevées à cause du manque d'effectifs et de ressources. La présente étude décrit l'état de santé mentale des ophtalmologistes du Québec et précise certains éléments de leur environnement de travail et de leur vie personnelle qui pourraient contribuer aux problèmes.

Méthodes : Cette étude transversale utilise un questionnaire personnel comprenant des instruments validés et d'autres créés pour la circonstance. En tout, 133 ophtalmologistes québécois sur 266 y ont participé.

Résultats : Plus de 35 % des ophtalmologistes ont fait état de niveaux élevés d'épuisement professionnel et de détresse psychologique. Les 5 principales sources de tension étaient la croissance de la demande de services (49,2 %), le manque d'ophtalmologistes (48,1 %), la somme de travail à accomplir (45,4 %), les pressions budgétaires (44,6 %) et la perpétuelle formation des nouvelles équipes de travail (41,9 %). L'auto-accélération sert le plus souvent de stratégie défensive pour affronter la surcharge de travail. Près de la moitié des répondants (47,4 %) ont dit avoir des problème à concilier le travail et leur vie personnelle. La moyenne des résultats indique que les ophtalmologistes reçoivent peu d'attention de l'administration.

Interprétation : La charge de travail et les déficiences structurelles de l'organisation sont des fardeaux pour les ophtalmologistes du Québec. Ceux-ci travaillent toujours plus fort pour maintenir leurs idéaux professionnels, mais reçoivent peu de considération de la part de l'administration. Les niveaux de détresse observés dans ce contexte indiquent le besoin pour les autorités de prendre les mesures nécessaires pour améliorer les conditions d'exercice professionnel. La situation est urgente à cause du vieillissement de la population qui commence à susciter une hausse rapide de la demande. Les jeunes médecins semblent souffrir le plus de la surcharge de travail et de l'épuisement professionnel.

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Many studies, conducted in a number of different countries, have shown that physicians are subject to high stress levels that can lead to mental health problems such as burnout and psychological distress. The situation for Canadian physicians is of particular concern given that Canadian studies report levels of burnout that are higher than those reported in research outside Canada.[1,2] Recently published studies on the mental health of certain groups of physicians in Canada describe a troubling picture that does not appear to be specific to any province or specialty.[1–5] A Canada-wide survey, commissioned by the Canadian Medical Association,[1] indicates that 45.7% of physicians (*n* = 2251) suffer from advanced stages of burnout. A qualitative research study by Maranda et al.[4] identified several elements that have helped to intensify the work of Quebec physicians: time constraints, bureaucratization of procedures, an increase in the number of high-needs cases, introduction of information technologies, risk of errors and increased responsibilities, substantial lack of resources, poor human resources management, lack of collegial solidarity and, finally, a normative discourse in the profession that promotes a culture of endurance despite this reality.

For years, the field of oculovisual care in Quebec has faced a number of the aforementioned issues, mainly related to accessibility problems that have generated extremely long waiting lists. According to the Association des médecins ophtalmologistes du Québec, these waiting lists can be attributed to 2 main factors: the shortage of ophthalmologists and the lack of financial and technical resources.[6] This situation is placing enormous pressure on ophthalmologists, who must already deal with an increase in work requirements in the field due to, among other factors, the rapid pace of technological advances. Population aging has increased the demand for services, thus ensuring that the pressures on ophthalmologists will not be decreasing in the near future.[7] This environment is highly conducive to the development of mental health problems, which may not only decrease the quality of care provided[8] but also distance some ophthalmologists from their practice. Their scarce numbers, however, make each one of them invaluable members of the medical community. The present study attempts, therefore, to describe the state of mental health of Quebec's ophthalmologists and to identify certain elements of their work environment and personal lives that may contribute to the emergence of mental health problems. The particular variables examined in the study were chosen on the basis of the theory of the psychodynamics of work[9] and psychosocial theories of stress.[8,10,11]

METHODS

Procedures and participants

The study was approved by the ethical review board of Université Laval. A self-administered questionnaire was sent to 266 ophthalmologists who were members of the Association des Médecins Ophtalmologistes du Québec as of May 27, 2005 (the entire questionnaire is available in the Research Report[2]). The procedure was completely anonymous. The ophthalmologists were also invited to participate through a letter and a telephone reminder to the heads of ophthalmology departments. In total, 133 ophthalmologists (50%) returned the questionnaire: 45 women (34.4% of those for whom sex was known) and 86 men (65.6%). Their age varied from 28 to 74 years old (mean 50.34 years; SD 10.48 years). The women were significantly younger than the men (t[df 109] = 3.10; $p < 0.01$). No significant difference was found between the sample and population of Quebec's ophthalmologists in terms of sex (χ^2[df 1] = 0.62, n = 397, n.s.), age category (χ^2[df 2] = 0.18, n = 393, n.s.), practice region (χ^2[df 5] = 4.02, n = 390, n.s.), or specialty (χ^2[df 5] = 7.28, n = 399, n.s.).

Instruments

Drawing on psychosocial theories of stress and of the psychodynamics of work, the questionnaire (15 minutes to complete) deals with mental health and a number of factors associated with it (Appendix 1, available online). The questionnaire includes validated scales, as well as other scales developed for this study. To validate the content, experts were consulted at the pretest stage.

Mental health problems

Three scales were used in the present study to describe the state of the ophthalmologists' mental health: the Santé Québec Psychological Distress Index,[12] the Maslach Burnout Inventory[8,13] (French translation), and the Suffering at Work Index.[2]

Personal and professional life

On the basis of the model developed by Viviers et al.,[2] the factors associated with mental health problems can be grouped into the following categories: determinants, evaluation of sources of tension and enjoyment, inter-role conflicts, well-being, personal and social resources, and defensive strategies. The following instruments were used (Appendix 1, available online).
 Determinants
  Socio-demographic data
  Identity Construction Scale[2]
 Evaluation of sources of tension and enjoyment
  Occupational Stressors Scale[2]
  Perception of work overload[2]
  Ophthalmologists' Enjoyment of Work Scale[2]
 Inter-role conflicts
  Inter-Role Conflicts Scale[2,14]
  Work–family balance problems[15]
 Well-being
  Perceived health status[16]
  Marital Satisfaction Scale[17]
  Satisfaction with social life[18]
  Satisfaction with Professional Life Scale[19]

Resources and defensive strategies
        Recognition Scale[2]
        Work Group Scale[2]
        Social Support Scale[2,20]
        Self-efficacy of Health-related Behaviors Scale[2,21]
        Defensive Strategies Scale[2]

Statistical analyses

The following values were calculated: percentages, means, and standard deviations. In order to compare the groups according to sex and age, log-linear analyses were conducted for the discrete variables and ANOVAs were carried out for the continuous variables. The analyses were conducted using the Statistical Package for the Social Sciences software, version 13.0 (SPSS Inc, Chicago, Ill.).

RESULTS

This section begins by presenting the results for mental health problems, which relate to the first objective of the study. The results obtained for the variables describing the personal and professional life of the participants are then described in detail.

Mental health

Table 1 shows the percentages of high level scores on the psychological distress and burnout scales, and agreement above 25% with the statements of the Suffering at Work Index. The ANOVA revealed that women reported more psychological distress than men (Table 2). The group of participants aged under 45 years reported experiencing more emotional exhaustion than the group aged 55 years and over (Table 2). The ophthalmologists reported more suffering related to the constraints dimension of the index than to the meaningless dimension (F[df 1, 122] = 134.27, $p < 0.001$; Table 2). Men aged under 45 years were more likely to report suffering at work than were the men in the other age groups, a difference that was not observed in the women (Table 2).

Personal and professional life

The results for this section are presented by themes. Table 3 summarizes the results of the ANOVAs conducted for the continuous variables and Table 4 details the results for the discrete variables of these themes.

Individual and environmental determinants

In terms of individual determinants other than those related to sex and age, support for the beliefs underlying the identity construction of physicians is an important variable to consider in the model used to interpret the results. The ophthalmologists generally agreed (4.6 out of 6) with the

Table 1—Responses to the mental health questionnaire		
Measures	%	n*
Psychological distress[†]	35.1	126
Burnout (dimensions)[†]		
Emotional exhaustion	45.0	123
Depersonalization	40.3	123
Personal accomplishment	25.4	124
Suffering[‡]		
I have the impression that I'm experiencing the repercussions of a deteriorating system	63.4	130
I feel powerless in the face of the constraints imposed by the system	61.1	130
I feel caught between the demands of quantity and quality of care	46.2	131
I feel guilty for not being able to do better in this situation	30.2	128
I have the impression that I have to perform miracles with few resources	26.5	128

*n varies as a function of missing values.
[†]Percentage over cut-off point.
[‡]Items above 25% proportion of agreement: "totally" and "strongly" agree points on a 6-point Likert scale.

Table 2—Univariate analyses of variance for mental health measures, by sex and age group														
	Under 45 years				45–54 years				55 years and over					F	
	M		F		M		F		M		F				
Measures	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	S × A	S	A
Psychological distress	25.05 (14.97)	23	30.33 (19.00)	21	22.51 (11.78)	26	30.09 (16.26)	11	17.96 (14.79)	35	25.15 (10.70)	10	0.12	4.69*	1.23
Emotional exhaustion	28.61 (9.01)	23	26.40 (8.96)	20	23.04 (8.60)	25	25.00 (12.90)	11	19.39 (12.28)	33	21.73 (8.44)	11	0.58	0.12	4.30*
Depersonalization	11.26 (5.73)	23	9.05 (5.31)	20	8.96 (5.19)	25	7.27 (4.78)	11	8.12 (5.31)	33	7.18 (5.13)	11	0.13	2.40	2.42
Personal accomplishment	37.04 (6.48)	23	36.40 (4.94)	20	37.20 (7.94)	25	36.73 (5.04)	11	38.32 (7.08)	34	37.36 (9.83)	11	0.01	0.26	0.25
Suffering, global score	4.14 (0.70)	23	3.34 (0.79)	20	3.02 (0.76)	26	3.31 (1.02)	11	3.11 (1.06)	33	2.94 (0.93)	11	3.52	1.76*	7.07[†]
Suffering, meaningless	3.70 (0.90)	23	2.87 (0.84)	20	2.49 (0.74)	26	2.94 (0.96)	11	2.69 (1.09)	32	2.61 (0.97)	11	1.03	2.05	6.58[†]
Suffering, constraints	4.78 (0.64)	23	4.16 (1.06)	21	3.76 (1.04)	25	3.86 (1.55)	11	3.82 (1.18)	33	3.43 (1.09)	11	4.45*	0.76	5.48[†]

*$p < 0.05$.
[†]$p < 0.01$.
Note: M, male; F, female; F, variance ratio (F test); S × A, interaction between sex and age group; S, sex; A, age group.

Table 3—Univariate analyses of variance for the personal and professional life section, by sex and age group

Measures	Under 45 years M Mean (SD)	n	F Mean (SD)	n	45–54 years M Mean (SD)	n	F Mean (SD)	n	55 years and over M Mean (SD)	n	F Mean (SD)	n	S × A	S	A
Identity construction, global score	4.81 (0.64)	23	4.55 (0.71)	21	4.26 (0.73)	26	4.76 (0.82)	11	4.77 (0.61)	34	4.25 (1.06)	11	0.43	4.37*	0.72
Identity construction, vocational ethics	4.97 (0.75)	23	4.64 (0.73)	20	4.29 (0.91)	26	4.98 (0.88)	11	4.83 (0.79)	33	4.00 (1.48)	11	3.31*	0.12	0.16
Identity construction, self-giving	5.06 (0.63)	23	4.97 (0.92)	20	4.74 (0.80)	26	5.30 (0.67)	11	5.27 (0.47)	33	4.94 (0.92)	11	6.07[†]	0.78	1.95
Identity construction, perfection	4.35 (0.97)	23	3.93 (0.90)	20	3.73 (0.96)	26	3.94 (1.47)	11	4.19 (0.96)	33	3.88 (1.21)	11	0.89	0.74	0.80
Duration of overwork (y)	2.64 (2.44)	17	3.07 (5.52)	11	3.46 (3.15)	13	3.14 (2.94)	8	6.25 (8.47)	10	5.16 (7.41)	6	0.11	0.06	1.62
Number of patients on waiting list	317.21 (501.95)	19	203.44 (192.52)	16	354.21 (512.54)	19	140.29 (104.28)	7	457.25 (643.80)	20	284.29 (354.11)	7	0.08	2.21	0.45
Patients' waiting time for appointment (months)	12.53 (28.26)	23	6.06 (3.61)	20	4.93 (3.78)	26	6.02 (3.73)	11	3.39 (4.50)	32	4.59 (2.98)	11	1.14	0.31	1.76
Average number of patients per day	47.78 (12.09)	23	35.93 (7.48)	21	39.44 (8.34)	26	36.82 (11.46)	11	34.94 (12.42)	31	31.59 (6.45)	11	2.41	8.70[†]	6.49[†]
Average number of surgeries per week	16.00 (19.08)	23	10.90 (4.64)	20	10.52 (6.06)	25	8.00 (2.83)	10	10.45 (7.95)	21	9.71 (2.98)	7	0.34	1.54	1.62
Self-acceleration, individual overaccountability	5.04 (0.75)	23	4.63 (0.76)	20	4.21 (0.87)	26	4.49 (0.62)	11	3.98 (1.01)	34	3.75 (0.96)	11	1.50	0.51	11.79[‡]
Self-acceleration, intensification	4.17 (1.09)	23	3.64 (0.94)	20	3.45 (0.99)	26	3.27 (0.88)	11	2.91 (1.14)	34	2.82 (0.88)	11	0.51	1.78	9.74[‡]
Strategic withdrawal, slowing down	2.83 (0.88)	23	3.12 (1.03)	20	2.97 (0.73)	25	3.12 (0.91)	11	3.28 (0.86)	33	3.27 (0.84)	11	0.28	0.70	1.19
Strategic withdrawal, intention to quit	1.99 (1.00)	23	1.67 (0.88)	21	1.77 (0.67)	26	2.02 (0.77)	11	1.65 (0.62)	35	2.14 (1.24)	11	2.51	0.78	0.09
Strategic withdrawal, use of psychoactive substances	1.39 (0.81)	23	1.35 (0.68)	21	1.21 (0.46)	25	1.15 (0.35)	11	1.29 (0.89)	34	1.18 (0.35)	11	0.02	0.29	0.74
Enjoyment, fields of interest	5.47 (0.43)	23	5.48 (0.46)	20	5.12 (0.52)	26	5.61 (0.38)	11	5.26 (0.57)	35	5.35 (0.94)	11	1.86	3.33	0.99
Enjoyment, tasks carried out	4.08 (0.89)	23	4.17 (0.93)	20	4.01 (0.75)	26	4.19 (0.77)	11	4.83 (0.58)	35	4.67 (0.98)	11	0.43	0.06	7.43[‡]
Community, global score	3.97 (0.84)	23	4.51 (0.96)	20	3.99 (0.83)	25	4.18 (0.72)	11	4.40 (0.87)	29	4.24 (0.98)	11	1.52	1.23	0.58
Recognition, administration	2.87 (1.34)	23	2.94 (1.41)	18	3.26 (1.26)	26	2.79 (1.07)	11	3.56 (1.26)	28	3.95 (1.68)	7	0.76	0.00	3.24*
Recognition, patients and colleagues	4.81 (0.71)	22	4.91 (0.72)	20	4.80 (0.58)	25	4.60 (0.86)	11	4.97 (0.51)	35	5.18 (0.69)	11	0.89	0.07	2.76
Support, administration	1.63 (0.63)	22	1.58 (0.69)	19	1.65 (0.57)	26	1.61 (0.39)	11	2.16 (0.85)	26	1.91 (1.15)	8	0.21	0.58	3.18*
Support, other people at work	2.60 (0.58)	22	2.91 (0.71)	20	2.84 (0.65)	26	2.80 (0.61)	11	3.01 (0.75)	32	2.99 (0.98)	10	0.73	0.35	1.10
Support, family and friends	3.69 (0.42)	22	3.73 (0.48)	20	3.53 (0.60)	26	3.60 (0.44)	10	3.59 (0.58)	31	3.40 (1.14)	10	0.43	0.06	1.19
Support, professional associations	2.32 (0.61)	21	2.00 (0.77)	19	2.38 (0.88)	24	2.22 (1.00)	9	2.48 (0.70)	30	2.37 (0.88)	9	0.18	1.42	0.96
No. of hours/wk spent on recreational activities	7.14 (4.83)	22	7.88 (5.52)	20	6.67 (4.18)	26	10.09 (4.76)	11	11.30 (9.13)	30	7.78 (6.69)	9	2.21	0.03	0.86
Family–work conflicts	2.40 (1.09)	23	2.50 (1.15)	20	1.93 (0.71)	26	2.11 (0.96)	10	1.80 (0.89)	31	1.92 (0.65)	10	0.09	0.32	3.68*
Work–family conflicts	4.15 (1.15)	23	4.08 (0.93)	20	3.84 (1.25)	26	4.00 (1.36)	10	2.92 (1.44)	31	3.10 (1.11)	10	0.18	0.20	7.59[†]
No. of hours/wk spent on household responsibilities	8.25 (5.69)	22	8.65 (5.64)	20	5.78 (4.16)	25	15.09 (7.41)	11	8.18 (7.77)	30	14.86 (5.82)	11	5.03[†]	19.97[‡]	2.36
No. of hours/wk spent on parental responsibilities	15.90 (12.25)	21	33.94 (26.91)	16	10.00 (8.96)	24	11.68 (10.33)	11	5.08 (8.65)	24	4.71 (4.31)	7	4.16[†]	4.57*	16.44[‡]
No. of hours worked by spouse	32.14 (12.15)	21	45.43 (9.21)	14	30.84 (12.29)	19	42.78 (14.17)	9	28.25 (11.20)	20	43.89 (6.14)	9	0.17	29.23[‡]	0.45
Satisfaction with relationship or married life	16.57 (2.83)	23	16.11 (2.40)	19	14.20 (3.46)	25	15.40 (3.47)	10	16.25 (2.50)	32	12.80 (4.78)	10	4.36*	2.10	3.67*
No. of children living with you daily	2.17 (0.62)	18	2.00 (0.52)	16	1.92 (1.15)	25	1.70 (0.95)	10	0.27 (0.63)	33	1.57 (0.98)	7	7.02[†]	2.89	14.44[‡]
Self-efficacy, global score	6.79 (1.33)	22	6.33 (2.08)	20	5.97 (1.31)	25	6.43 (1.40)	11	6.80 (1.67)	33	6.73 (2.65)	11	0.65	0.00	0.88
Self-efficacy, getting help	6.49 (1.81)	22	6.07 (2.35)	20	5.45 (1.45)	26	6.05 (2.35)	11	6.38 (1.97)	32	6.61 (3.06)	11	0.58	0.12	1.09
Self-efficacy, managing own health	7.17 (1.29)	22	6.66 (1.98)	20	6.56 (1.48)	25	6.91 (1.12)	11	7.20 (1.44)	33	6.89 (2.30)	11	0.67	0.26	0.30

*p < 0.05.
[†]p < 0.01.
[‡]p < 0.001.
Note: M, male; F, female; F, variance ratio (F test); S × A, interaction between sex and age group; S, sex; A, age group.

statements that make up the physicians' Identity Construction Scale. The ophthalmologists in the sample agreed significantly more with the vocational ethics dimension, followed by the self-giving dimension, and finally with the perfection dimension (F[df 2, 225] = 72.83, $p < 0.001$; Table 3). Men aged 45 to 54 years identified less with the statements.

As for environmental determinants, the practice setting (private office, university, or hospital) seemed to be an important variable to consider when evaluating sources of tension. Indeed, the analyses carried out showed that stressors differ among settings (Table 5). However, since the vast majority of ophthalmologists practise in more than 1 setting, it becomes risky and not particularly useful to

Table 4—Sources of professional tension and characteristics of personal and professional life, by sex and age group

Measure	Under 45 years		45–54 years		55 years and over	
	M, *n* (%)	F, *n* (%)	M, *n* (%)	F, *n* (%)	M, *n* (%)	F, *n* (%)
Sources of professional tension (high level)						
Problems finding someone to replace them	11 (47.8)	7 (35.0)	11 (44.0)	4 (36.4)	6 (17.6)	5 (45.5)
Emergencies and unpredictable events	12 (52.2)	8 (40.0)	11 (44.0)	6 (54.5)	7 (20.0)	3 (27.3)
Amount of work to be done	15 (65.2)	10 (50.0)	10 (40.0)	4 (36.4)	13 (37.1)	5 (45.5)
Short length of time available per patient	15 (65.2)	6 (31.6)	9 (36.0)	4 (36.4)	7 (20.0)	5 (45.5)
Outdated or inadequate equipment	10 (43.5)	7 (35.0)	4 (16.0)	5 (45.5)	8 (22.9)	1 (10.0)
Inaccessibility of specialized equipment	13 (56.5)	8 (38.1)	6 (24.0)	3 (27.3)	8 (22.9)	3 (27.3)
Repeated training of new work teams	13 (56.5)	9 (45.0)	13 (52.0)	6 (54.5)	7 (20.6)	5 (45.5)
Lack of support staff	17 (73.9)	9 (45.0)	8 (32.0)	6 (54.5)	6 (17.1)	4 (36.4)
Patients' high expectations	10 (43.5)	9 (45.0)	5 (20.0)	6 (54.5)	6 (17.1)	6 (54.5)
Frustration of people on the waiting list	8 (34.8)	10 (47.6)	6 (24.0)	4 (36.4)	5 (14.3)	5 (45.5)
Fear of making errors	8 (34.8)	10 (50.0)	7 (28.0)	4 (36.4)	7 (20.0)	4 (36.4)
Fear of complications	12 (52.2)	10 (50.0)	9 (36.0)	4 (36.4)	6 (17.1)	3 (27.3)
Fear of professional reprimand	8 (34.8)	9 (45.0)	6 (24.0)	4 (36.4)	9 (25.7)	2 (18.2)
Shortage of ophthalmologists	13 (56.5)	10 (50.0)	9 (37.5)	8 (72.7)	13 (37.1)	7 (63.6)
Problem referring patients to other specialists	10 (43.5)	10 (47.6)	6 (24.0)	6 (54.5)	9 (26.5)	7 (63.6)
Lack of new generation of physicians to replace them	10 (43.5)	8 (40.0)	8 (32.0)	6 (54.5)	13 (37.1)	7 (63.6)
Growth in demand	11 (47.8)	12 (60.0)	13 (52.0)	6 (54.5)	13 (37.1)	7 (63.6)
Waiting lists	13 (56.5)	10 (47.6)	12 (48.0)	4 (36.4)	5 (14.3)	6 (54.5)
Budgetary pressures	16 (69.6)	10 (50.0)	9 (36.0)	5 (45.5)	10 (28.6)	4 (40.0)
Financial responsibilities linked to status as self-employed worker	9 (39.1)	12 (60.0)	7 (28.0)	2 (18.2)	10 (29.4)	2 (18.2)
Other characteristics of professional and personal life						
Context of work overload	18 (78.3)	14 (70.0)	15 (57.7)	8 (72.7)	16 (47.1)	8 (72.7)
Dissatisfaction with social life	10 (43.5)	9 (42.9)	6 (23.1)	3 (27.3)	4 (11.4)	4 (36.4)
Dissatisfaction with friends' relationships	4 (18.2)	3 (14.3)	1 (3.8)	2 (18.2)	4 (11.4)	2 (18.2)
Work/family–personal life problems	13 (59.1)	16 (76.2)	11 (42.3)	2 (18.2)	12 (35.3)	4 (36.4)
Marital/relationship problems	5 (21.7)	3 (15.8)	12 (48.0)	2 (20.0)	4 (12.5)	5 (50.0)
Poor health status	8 (36.4)	8 (40.0)	9 (39.1)	5 (55.6)	7 (28.0)	4 (40.0)
Poor health status versus others	9 (39.1)	7 (33.3)	10 (38.5)	3 (27.3)	12 (34.3)	5 (45.5)

Note: M, male; F, female.

distinguish between the contributions of the stressors specific to each setting. The following analyses therefore disregard practice settings.

Workload and defensive strategies

For all settings combined, the growth in demand for services, the shortage of ophthalmologists, and lack of a younger generation of ophthalmologists to replace those currently in the profession generated considerable or enormous tension for more than 40% of ophthalmologists (Table 4). Nearly two-thirds of the ophthalmologists (62.6%) believed that they were overworked (Table 4). Moreover, they had been in this situation for 4 years on average (Table 3). The amount of work to be carried out, the waiting lists, and the lack of time available per patient generated a high level of tension among more than a third (Table 4). The ophthalmologists reported having an average of more than 300 patients on their waiting lists, with an average wait of 6 months (Table 3). They were working at a rate of nearly 40 patients per day, with male ophthalmologists seeing more patients than their female counterparts. Ophthalmologists aged under 45 years reported seeing more patients than those aged over 55 years. Those who performed surgery (n = 108) performed an average of slightly more than 11 surgeries per week. To deal with the work overload, ophthalmologists tended to use self-acceleration (doing more to try to make up for the lack of resources) rather than strategic withdrawal strategies, but the use of self-acceleration decreases significantly with age. They were more likely to use the strategy of individual over-accountability than intensification (F[df 1, 126] = 105.48, p < 0.001). The strategic withdrawal strategies used by the ophthalmologists were, first and foremost, the strategy of slowing down rather than those linked to intention to quit their job or consumption of psychoactive substances.

Other occupational stressors

Beyond workload, concerns about the management of human, material, and financial resources create considerable tension among ophthalmologists. For example, more than 40% reported that they experience a high level of tension linked to budgetary pressures and to the fact that they do not have enough staff to support them in their work or that they have to constantly train new work teams (Table 4). Nearly 30% of the ophthalmologists experienced tension related to the problem of inaccessible or outdated equipment, as well as to problems in finding someone to replace them or finding specialists to whom they can refer patients. Pressure related to patients' high expectations seemed to create considerable tension in such a context, which would appear to be corroborated by the tension created by fears about complications, errors, and professional reprimand (Table 4).

Satisfaction and sources of enjoyment

While over a quarter of the ophthalmologists (26.5%) reported being dissatisfied with their professional life (Table 4), the overall results obtained on sources of enjoyment at work indicated that the vast majority of them enjoyed practising their profession and carrying out their tasks (Table 3). The ophthalmologists reported that they derive significantly more enjoyment from tasks related to their fields of interest (e.g., "understanding the phenomena that I handle," "being in contact with people to help them") than from tasks accomplished (e.g., doing patient follow-up, writing clinical reports) (F[df 1, 127] = 220.80, p < 0.001). Compared with the other age groups, those aged over 55 years tend to derive more enjoyment from tasks accomplished (Table 3).

Social life and support

The results with regard to the social resources available to the ophthalmologists indicated a score of 4 (somewhat agree) on a 6-point scale in terms of their sense of belonging to a work community (Table 3). They felt recognized more by their colleagues and patients than by the administration (F[df 1, 111] = 116.25, p < 0.001). Those aged 55 years and over were more likely to feel that they receive recognition (Table 3). All the ophthalmologists reported receiving more support from their family and friends and from other people with whom they work than from their professional associations and the administration (F[df 1, 305] = 148.29, p < 0.001). A total of 70.5% of respondents rated their social life as very or somewhat satisfying, and 87% reported that they were very or somewhat satisfied with their relationships with friends (Table 4). On average, they spent slightly more than 8 hours per week on recreational activities (Table 3).

Table 5—Sources of professional tension by practice setting		
Practice	High-level stressors	Low-level stressors
Private office	Requirements to keep up to date	Amount of work to be done
	Fear of making errors	Patients' psychosocial problems
	—	Growth in demand
	—	Lack of control over professional environment
Hospital	Rotation of operating room support team	—
	Fear of complications	—
	Salary maximum	—
University	Amount of work to be done	Fear of complications
	Administration's expectations of physicians' performance	—
	Carrying out tasks for which respondents are overqualified	—
	Physical work environment	—
	Shortage of ophthalmologists	—
	Growth in demand	—
	Waiting lists	—
	Lack of control over professional environment	—

Work–life interface

Nearly half of the ophthalmologists found it difficult to reconcile work and family or personal life (Table 4). Work–family conflicts appeared to be greater than family–work conflicts (F[df 1, 121] = 24.02, p < 0.001). The respondents aged under 45 years experienced more inter-role conflict than those aged 55 years and over (Table 3). The women appeared to have a greater burden than the men in their personal lives in relation to both household and parental responsibilities (Table 3). Unlike women in the other age groups, the women aged under 45 years devoted as much time as the men in their age group to household activities but significantly more time than the men to parental responsibilities. The results relating to family life showed that almost all the ophthalmologists had a spouse (94.7%) and that 81% of the spouses were employed, the vast majority as professionals (73.3%). The spouses who were employed devoted an average of more than 35 hours per week to their work. The women's spouses worked significantly more hours than did the men's spouses (Table 3). A total of 26.4% of the participants had marital or relationship problems (Table 4). The men aged 55 years and over were more satisfied with their relationships than the women in the same age group (Table 3). Moreover, they had significantly fewer children living with them on a daily basis.

Perceived health and self-efficacy health-related behaviors

A total of 63.2% of the ophthalmologists considered their health to be excellent or very good, and this proportion rose to 63.9% when they compared themselves with people their own age (Table 4). They rated the self-efficacy of their health-related behaviors at 6.5 on a 10-point scale (Table 3). They were more confident in their abilities to manage their health than to seek help, regardless of their sex or age group (F[df 1, 122] = 20.64, p < 0.001).

INTERPRETATION

The aim of this study was to describe the state of mental health of Quebec ophthalmologists and to identify certain elements of their work environment and personal lives that might contribute to the emergence of mental health problems.

Description of mental health

To describe the state of mental health of Quebec's ophthalmologists, the results of the Santé Quebec Psychological Distress Index and the Maslach Burnout Inventory were interpreted in comparison with other studies using the same instruments. The results of the Suffering at Work Index are then interpreted in the light of the psychodynamics of work theory.

In the last Enquête sociale et de santé (Quebec Health and Social Survey, 1998), the proportion of severe psychological distress, a state that includes symptoms related to depression, anxiety, irritability, and cognitive processes, was approximately 20% for the population aged 15 years and over.[22] In comparison, a higher proportion (35.1%) of the ophthalmologists in the present study experienced a high level of distress. The female ophthalmologists reported a high level of psychological distress (47.6%), which was significantly higher than that reported by men (27.4%). This is in line with the trend observed in the general population for all age categories (women = 22.8% vs men = 17.3%). Nevertheless, relatively speaking, considerably more female ophthalmologists than women in the general population said that they experienced a high level of psychological distress. However, the rates obtained seem to be similar to those obtained for health care workers overall. For example, one study of 1378 nurses in Quebec[23] found that 31.5% of them experienced a high level of psychological distress. Firth-Cozens[24] reviewed the literature and concluded that the incidence of depression and alcoholism among physicians is similar to that among other health care workers.

The results related to burnout indicate that 45% of the ophthalmologists felt overextended and exhausted by their work, 40.3% reported that they had an unfeeling and impersonal response toward patients, and, finally, 25.4% felt that their competence had decreased and that they were accomplishing less in their work. The proportions of ophthalmologists with high levels of emotional exhaustion (45%) and depersonalization (40.3%) are higher than the standard proportion of the Maslach Burnout Inventory (MBI; 33%).[8] However, lower feelings of personal accomplishment are not as common among the ophthalmologists (25.4%) as compared with the MBI norm. Studies of burnout among Canadian physicians show similar rates to those obtained in the present study.[1,3,5,25] However, there seems to be a difference in the pattern of how burnout is expressed. Fewer Quebec ophthalmologists felt that they have low levels of personal accomplishment, but more of them felt that they had an impersonal response towards patients. Moreover, studies of physicians carried out in other countries using the MBI to measure burnout, whether of U.S. surgeons,[26] Swiss primary care physicians,[27] or Italian general practitioners and hospital physicians,[28] show that the rates of physicians suffering from burnout are lower than those found in the present study. A study of 3313 Finnish physicians[29] found particularly low rates, varying from 11.5% to 16.6%, for emotional exhaustion, from 3% to 11% for depersonalization, and from 1.6% to 3.8% for feelings of low personal accomplishment. The present finding, therefore, raises important questions about the situation of Canadian physicians in general.

The suffering experienced at work by Quebec ophthalmologists is linked in particular to powerlessness in the face of a number of systemic constraints. A large proportion of these physicians had the impression that they were suffering from the indirect consequences of a deteriorating system, to the point where some of them no longer felt that it was safe to practise in the current conditions. The major-

ity felt powerless in the face of the constraints imposed upon them. These constraints prevented them from practising their profession in a way that allowed them to use their professional training and that respected their values. For almost half of the ophthalmologists, this created a meaningless situation in which they were caught between the demands of quantity and quality of care. According to Dejours,[9] suffering results from the contradictions and paradoxes of work organization, which contribute, dynamically, to eliminating "free behaviors" aimed at transforming the surrounding reality. The suffering of the ophthalmologists can be viewed from this perspective. The gap between the demands of work (e.g., standards of good practice) and reality (e.g., the time available per patient) creates a psychological work overload. Thus, for the physicians who participated in the qualitative study of the psychodynamics of work,[4] the sources of psychological work overload can be found in an intensification and bureaucratization of work, inadequate human resource management, and an increase in the number of high-needs cases (elderly clients and psychosocial cases), as well as the resulting increased risk of errors. Thus, the evolving work environment of the ophthalmologists needs to be examined.

Personal and professional life

A second goal of the study was to identify certain elements of the ophthalmologists' personal and professional lives that may contribute to the emergence of mental health problems (psychological distress, burnout, suffering at work). A description of the key elements to emerge should suggest avenues that can be pursued to explain the ophthalmologists' state of mental health.

The results of the present study indicate that the work organization of the ophthalmologists was characterized by work overload. More than 60% of the ophthalmologists considered themselves to be overworked and believed that they had been so for several years. Work overload is not only a major predictor of stress[24] but also of psychological distress, emotional exhaustion, and depersonalization.[30] The main occupational stressors found among the ophthalmologists were related to workload. Moreover, it appears that the main stressors related to workload were not so much the hours of work (26.2%) or the way in which the schedule was arranged (21.1%) but, rather, the amount of work (45.4%) in relation to the time available to get it done (36.4%).

According to the results obtained, the prevailing conditions of the work organization of the ophthalmologists seemed to exacerbate this tension. Inefficient management of human resources (e.g., lack of ophthalmologists relative to growth in demand, lack of or poor management of support teams), of material resources (e.g., unavailability of operating rooms), and financial resources (e.g., budgetary pressures) generated significant tension among the ophthalmologists. In this context, fears of being faced with complications, making errors, and professional reprimand have created considerable tension. According to the results of a longitudinal study involving a cohort of physicians and conducted over 1 decade, the commission of errors and the fear of being taken to court were among the 4 main stressors.[24]

The problems that ophthalmologists encounter in their professional sphere are reflected in the rates of dissatisfaction with their professional life, which is proportionally higher than in other studies of physicians,[31,32] especially Canadian physicians.[3,33] A recent meta-analysis[34] indicated that dissatisfaction at work is particularly related to burnout, depression, and anxiety disorders. This corroborates Dejours' suggestion[9] that when the subjective relation with work deteriorates, suffering has repercussions beyond the professional sphere.

In this regard, the results of the present study indicate that nearly half the ophthalmologists experienced problems achieving work–family balance, which is a considerably higher proportion than that of the overall population in Quebec.[15] Numerous studies indicate that these problems are one of the most significant sources of stress among physicians.[24,26,35] These problems give rise to additional tension resulting from an interaction between the stress experienced in the individual's different spheres of life.[36] According to the results of the Inter-role Conflicts Scale the ophthalmologists felt more that their professional life impinged on their personal life than vice versa. St-Onge et al.[37] hypothesize that the boundaries of family life are more permeable than those of professional life. During conflicts, ophthalmologists are therefore more inclined to neglect the family sphere, since it is not formally evaluated and the consequences of doing so are often less tangible, at least in the short term.

This incursion by the professional sphere is certainly linked with the type of defensive strategies used by the ophthalmologists—whether consciously or not—to handle their work organization, that is, with self-acceleration strategies. The tendency to always do more to try to make up for the lack of resources is exacerbated by what Maranda et al.[4] have identified as a context of hyperwork, "that is, situations which presume extraordinary individual performance that must be kept up in the long term (even the very long term), so as to make up for organizational deficiencies." Through these strategies individuals seek to regain a level of work satisfaction that corresponds to an internalized ideal model,[38] which is part of a culture of endurance developed throughout their training (university, residency, professional federations).[4] Thus, both identity-based expectations and demands related to work organization are driving the ophthalmologists' self-acceleration.

In the current study, the ophthalmologists' identity-based expectations were evaluated through the identity construction of physicians, made operational in the form of beliefs linked to professional ideals. The results indicate that the ophthalmologists supported the beliefs stated in the study instrument. They agreed more with the statements on vocational ethics, which refer to professional

behavior and a commitment to the vocation of physicians. Self-giving is the second dimension that ophthalmologists most support. It expresses the rules related to the responsibilities of the physician's role in society. Finally, though to a lesser extent, the ophthalmologists generally supported the statements identifying the expectations that they have of themselves to achieve perfection.

The survey of the psychodynamics of work conducted with a group of Quebec physicians[4] showed that the participants derived enjoyment mainly from their passion for medicine and desire to help, to provide care, and to cure patients. This is corroborated by the results of the present study, which indicate that despite the tension and dissatisfaction experienced by many ophthalmologists in their professional environment almost all the respondents reported enjoying their work: they enjoy the vast majority of their tasks (e.g., "providing medical treatment for disease" and "following up patients") and enjoy them even more in their fields of interest (e.g., "understanding the phenomena that I handle" and "communicating with people").

While the ophthalmologists reported that they enjoy their profession and identify with its underlying ideals, this study, like others, reveals a feeling that they receive little recognition from the institutional structure. That recognition, however, would provide gratification, reassurance, and a feeling of usefulness to individuals experiencing work-related tension, thus helping to prevent the symptoms of anxiety, depression, and irritability that usually accompany this type of situation.[39] On the other hand, the ophthalmologists felt that there was more recognition by their patients and colleagues. Similarly, they felt more supported by their family and friends and by their colleagues than they did by the administration or their professional associations. It should be noted that in some of the literature, social support, particularly support from the administration, is recognized as having beneficial effects on mental health.[40,41]

The ophthalmologists do not necessarily seek professional help, despite the potential for support. As regards their health, some studies show that physicians generally tend to not consult other physicians in a formal way when they are ill, especially if they have mental health problems.[24,42,43] They are more likely to take care of themselves.[44] Indeed, the present study shows that the ophthalmologists were more confident in their abilities to take care of their own health than to seek help, for example, through their Physicians Assistance Program. Moreover, most of the ophthalmologists (87.8%) saw themselves as being in good, very good, or excellent health, which is quite paradoxical given the portrait of their mental health. This proportion is similar to that obtained for the general population of Quebec (89%),[45] despite the ophthalmologists having a higher level of psychological distress (35.1% vs 20%). On the other hand, ophthalmologists seem to consider themselves as less healthy than people with the highest level of education (92.8%), those with a higher income (93.4%), employed individuals (94.7%), and professionals (95.8%).

Although this global portrait applies to the entire sample, the ophthalmologists under 45 might deserve more attention: they were more exhausted, were more likely to use the self-acceleration strategies to face work overload, and reported more inter-role conflicts. Beyond the explanation of a survival bias,[46] some studies have speculated about a generational effect:[47] physicians under 45, males and females, would tend to value more balance between their professional and personal life.[48–51] Since these life expectations are difficult to meet in the actual medical workplace and culture, some authors have suggested possible solutions: (*i*) redefine excellence, professionalism, and work ethic so that they are no longer included in the model of endurance;[49,50] and (*ii*) increase the flexibility in employment settings.[49–51] This generational effect should be investigated more fully, because it has important implications for the work organization and workforce planning.

Courses of action

After this description of the risk factors for mental health problems, the interactions within the professional context of ophthalmologists and concrete transformation of this context remain to be considered, more particularly regarding work organization. This is not simple, especially because it is important to resist the temptation to seek quick, ready-made solutions that would only have an effect on the surface, or to consider only individual adjustment measures, whose limits have been demonstrated.[52] The complexity of the situation makes it necessary to think of action in terms of prevention. Prevention remains the most accessible course of action to avoid greater deterioration in work-related mental health and consists of 3 levels: tertiary, secondary, and primary.

Tertiary prevention involves treatment and rehabilitation. In this sense, the Quebec Physicians' Health Program performs work that exceeds the usual framework of employee assistance programs.[53] Indeed, in addition to being able to respond to their peers' suffering, the consulting physicians in this organization can understand this suffering in its structural and institutional complexity. However, all too often, their intervention occurs when physicians have reached their limits and their health has already deteriorated, because physicians tend to wait a very long time before seeking help.

Secondary prevention, on the other hand, is based on information, awareness raising, and the implementation of individual and collective coping strategies. In this regard, much remains to be done at the level of university training of physicians and also within the professional federations, which have a role to play in protecting their members' well-being. Caution-based know-how must be developed. Just as firefighters share the safety rules to follow when fighting fires, and construction workers share techniques for dealing with danger, ophthalmologists must also recognize the specific risks linked to their profession and develop occupational health and safety regulations that will protect them

more effectively from professional risks, since hyperwork is an example of a risk that can backfire on them.

This leads to primary prevention, which consists of finding the source of work-related risk factors and improving them, in particular those related to work organization (e.g., shortage of ophthalmologists, work overload, support team turnover, work–family conflict, and lack of recognition). This type of prevention is the most difficult to carry out because it is seen as pertaining to managerial rights. Democracy should first be restored in the work environment, that is, ophthalmologists should be able to express their views, discuss, agree on the measures to be taken, and make decisions—in a nutshell, stand up and negotiate the conditions for their participation. "The democratization of social labour relations must be achieved at all levels: from local establishments to industrial or service sectors, through legislation at the different government levels."[54] Only under these conditions can work-related mental health interventions be directed towards improving worklife quality. In fact, a few worthwhile Canadian initiatives have been undertaken in this regard involving, in particular, resident physicians[55] but also, more broadly, health care in general. The Quality Worklife, Quality Healthcare Collaborative has implemented an action strategy aimed at an effective and viable Canadian health care system based on a healthy work environment.[56] This strategy is in line with the spirit of uncovering the source of organizational risk factors and improving them, an approach on which associations of ophthalmologists could draw.

Limitations and strengths of the study

The main limitation of this study is inherent in its methodology. First, like many studies on the mental health of physicians, the present study is cross-sectional, which provides only a snapshot of the situation. Second, the statistical analyses carried out do not allow for the establishment of causal relations between the variables relevant to personal life, professional life, and mental health problems. However, the results presented can be used to describe the current risky situation as regards the ophthalmologists' mental health and the variables that the literature suggests may influence it. The description presented here brings out certain variables that represent problems for the ophthalmologists. The response rate of this study (50%) was close to the mean (54%) obtained by Asch et al.[57] for physician mail surveys published in medical journals. In addition, the sample is representative of the population of ophthalmologists in Quebec concerning sex, age category, practice region, and specialty, suggesting that the nonresponse bias is limited. Concerning the mental health variables, there was no clear evidence found in the literature that respondents and nonrespondents differ on these variables, although some research has shown that nonrespondents in health surveys have a greater prevalence of disease symptoms and greater morbidity.[58] Moreover, given the homogeneity of physicians as a group (knowledge, training, attitudes,

behavior), nonresponse would be less associated with survey content in physicians than in the general population.[59]

In conclusion, this study has revealed a situation that should be of particular concern for Quebec's profession of ophthalmologists. More than one-third of them suffer from burnout or psychological distress. This state of affairs is part of a context in which work overload and systemic organizational deficiencies are weighing them down, creating a situation of overwork, indeed hyperwork, in which they attempt to preserve their professional ideals by constantly working harder. They feel, however, that they receive little support or recognition from the institutional authorities for their efforts to deal with matters.

The situation is especially worrying because there is a shortage of ophthalmologists in the Quebec health care network, the aging population has already caused a sharp increase in the demand for their services, and younger physicians appear to be suffering most from work overload and burnout. If conditions do not change, it is possible, even probable, that a large number of ophthalmologists will decide to limit their practice, move, or even leave the field.[60] This would merely serve to worsen the pressure on the public system.

It is therefore very important that the situation be brought to the attention of the professional structure so that an action plan can be put in place as soon as possible. This action plan should aim, above all, to have the ophthalmologists and the authorities recognize the conditions revealed by the present study. In light of the results obtained, it also seems crucial that the ophthalmologists demand their right to control the organization of their work.

Appendix 1 can be found on the *CJO* web site at http://pubs.nrc-cnrc.gc.ca/cjo/cjo.html. It is linked to this article in the online contents of the October 2008 issue.

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