COMPLEMENTARY HEALTH CARE SERVICES: A SURVEY OF GENERAL PRACTITIONERS' VIEWS

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Abstract • Résumé

Objective: To determine the referral practices, perceived usefulness, knowledge, prior training and desire for training of general practitioners (GPs) in Quebec with regard to complementary health care services such as acupuncture, chiropractic and hypnosis.

Design: Cross-sectional mail survey.

Setting: Province of Quebec.

Participants: Random sample of 200 GPs. Of the 146 who responded, 25 were excluded because they were no longer in practice; this left 121 (83%).

Outcome measures: Self-reported referral practices for complementary health care services, perceived usefulness and self-assessed knowledge of such services, and prior training and desire for training in these services.

Results: Sixty percent (72/121) of the GPs knew at least one practitioner of a complementary health care service for referral; 59% (70/119) reported referring patients to physicians who practise such services and 68% (80/118) to nonmedical practitioners. At least one of the three services studied were regarded as having some use by 83% (101/121). Overall, self-reported knowledge was poor: the proportions of GPs who reported knowing a lot about acupuncture, chiropractic and hypnosis were 11% (13/121), 10% (12/121) and 8% (10/121) respectively. Prior training was also lacking: only 8% (9/118) of the GPs had received previous training in acupuncture, 2% (2/111) in chiropractic and 3% (3/103) in hypnosis. In all, 48% (57/118) indicated that they would like further training in at least one of the services studied, and 13% (16/121) indicated that they currently provided one service.

Conclusions: Referral of patients by GPs to practitioners of complementary health care services is common in Quebec. Although self-assessed knowledge about such services is relatively poor, interest in learning more about them is high. These findings identify a demand for future educational initiatives.

Objectif : Déterminer les pratiques de présentation, l'utilité perçue, les connaissances, la formation antérieure et le désir de formation des omnipraticiens (OP) du Québec en ce qui a trait aux services de santé complémentaires comme l'acupuncture, la chiropratique et l'hypnose.

Conception : Enquête postale transversale.

Contexte : Province de Québec.

Participants : Échantillon aléatoire de 200 OP. Sur les 146 qui ont répondu, on en a exclu 25 parce qu'ils ne pratiquaient plus, ce qui en a laissé 121 (83 %).

Mesures des résultats : Pratiques de présentation à des services de santé complémentaires indiquées par les répondants, utilité perçue et connaissance de ces services évaluée par les intéressés, ainsi que formation antérieure et désir de formation dans ces domaines.

Résultats : Soixante pour cent (72/121) des OP connaissaient au moins un praticien fournisseur de service de santé complémentaire à qui présenter des patients; 59 % (70/119) ont déclaré présenter des patients à des médecins qui offrent de tels services et 68 % (80/118) à des praticiens non médecins. Au moins un des trois services étudiés était considéré comme d'une certaine utilité par 83 % (101/121) des répondants. Dans l'ensemble, les connaissances signalées par les répondants étaient médiocres : les proportions d'OP qui ont déclaré en savoir beaucoup au sujet de l'acupuncture, de la chiropratique et de l'hypnose étaient de 11 % (13/121), 10 % (12/121) et 8 % (10/121) respectivement. Les répondants manquaient aussi de formation antérieure : 8 % (9/118) seulement des OP avaient déjà reçu une forma-

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tion en acupuncture, 2 % (2/111) en chiropratique et 3 % (3/103) en hypnose. Au total, 48 % (57/118) ont indiqué qu'ils aimeraient recevoir une formation plus poussée dans au moins un des trois services à l'étude et 13 % (16/121) ont indiqué qu'ils fournissaient actuellement un service.

Conclusions : Les OP présentent souvent des patients à des fournisseurs de services de santé complémentaires au Québec. Même si les intéressés déclarent connaître relativement mal ces services, ils sont très intéressés à en apprendre davantage à ce sujet. Ces constatations révèlent qu'il y a une demande d'initiatives futures d'éducation.

In recent years complementary health care services such as acupuncture, chiropractic and hypnosis have become more frequently used by the public for the treatment of medical conditions.[1-3] In a recent study in the United States 72% of the people who used complementary health care services had not informed their regular physician.[1] This constitutes a "huge and potentially hazardous communication gap."[4]

In Nova Scotia the Medical Society of Nova Scotia approved a complementary medicine section in a precedent-setting landslide vote.[5] In Quebec the government is considering providing structured training and recognition by amending the Medical Act for complementary health care services.[2] Given the growing use of such services by the public in Quebec,[3] increased government interest in supporting such services[2,5] and an increasing body of evidence suggesting that certain of these services may be effective in treating some medical conditions (Table 1[6-18]), medical professionals should be knowledgeable about the uses and effectiveness of these options to be able to advise their patients.

Surveys conducted in other countries have indicated that physicians refer their patients to practitioners of complementary health care services, see such services as having some degree of usefulness and yet know little about these techniques but want further training in some of them (Table 2).[19-23] Acupuncture, chiropractic and hypnosis were among the most popular services addressed in most of these studies.

Table 1: Uses of acupuncture, chiropractic and hypnosis that have reportedly been effective

Service	Use
Acupuncture	Arthritis[6]
	Asthma[7,8]
	Back pain[6]
	Bronchitis[9]
	Cervical pain[6]
	Headache[6]
	Nausea and vomiting[10-12]
	Withdrawal symptoms[6,13]
Chiropractic	Low-back pain[14]
	Sciatic pain[14]
Hypnosis	Dermatology (e.g., psoriasis)[15,16]
	General medicine (e.g., stress-related disease, insomnia, eating disorders)[15]
	Obstetrics and gynecology (e.g., hyperemesis gravidarum)[15,17]
	Pain control[15,18]
	Pediatrics (e.g., enuresis, learning disorders)[15,18]
	Surgery (e.g., hypnoanesthesia)[15]

To our knowledge, no reports have been published about general practitioners' (GPs') attitudes and practices regarding complementary health care services in Quebec or the rest of Canada. We decided to survey a random sample of physicians affiliated with the Fédération des médecins omnipraticiens du Québec (FMOQ), the professional body for all GPs and family physicians in Quebec. Our goals were to determine whether (a) Quebec GPs refer their patients to practitioners of complementary health care services, (b) they think that such services are useful, (c) these practices and beliefs are based on knowledge about these services and (d) Quebec GPs would like to improve their knowledge about these services. We also wanted to determine whether GPs differed in these four areas in terms of their demographic characteristics, medical training and practice characteristics.

Methods

A questionnaire was mailed to 200 GPs in Quebec in the summer of 1993. The names were randomly chosen from the membership list of the FMOQ. The package included a prestamped, self-addressed envelope, a cover letter and a questionnaire in English or French, depending on the physician's language preference indicated on the membership list. The questions were adapted from a questionnaire used in a previous study in New Zealand.[22] They were designed to collect information on the physicians' referral practices regarding acupuncture, chiropractic, hypnosis and other complementary health care services (as specified by the respondents), their opinion on the usefulness of these services, their knowledge of them, and their past training and desire for more training in complementary health care services. (A copy of the questionnaire is available from the corresponding author upon request.) We did not attempt to assess the validity and reliability of the questionnaire beyond its face validity. Although most of the other surveys had asked about many complementary services, we arbitrarily decided to focus on what we felt were the three most commonly used ones; an "other" category was provided for additional services.

The questionnaire obtained data on demographic characteristics (age, sex, language and country of origin) and medical training and practice (medical school for

undergraduate and residency training, and number of years in practice). For referral practices, GPs were asked whether they refer patients to physicians who practise complementary health care services or to nonmedical practitioners of such services. Physicians were asked to rate the usefulness of complementary health care services using a 5-point Likert scale (1 = "Useless", 5 = "Very useful"). Likewise, to assess their knowledge of such services physicians were provided with another 5-point Likert scale: "Have never heard of it" (1), "Have heard of it" (2), "Know something about it" (3), "Know a considerable amount/have read some books about it" (4) and "Know a lot/have received training in the practice of it" (5). All other questions elicited Yes or No answers.

Statistical analysis

The data were analysed with the use of SPSS software (SPSS/PC+, version 4.01; SPSS Inc., Chicago, 1990). The χ^2 and Fisher's exact tests were used to measure the significance of differences in responses. The Fisher's exact test was used when the total sample and the expected values were small (fewer than 20 and less than 5 respectively) in a 2×2 table. To confirm findings of bivariate analyses and to assess their relative strength, exploratory multivariate linear regression analyses of perceived knowledge and usefulness for the three techniques separately, and for overall scales of knowledge and usefulness, were performed. Multivariate logistic regression analyses were performed to identify relevant predictors of dichotomous outcomes (i.e., interest in further training). The following variables were used in these analyses: age, sex, country of birth (Canada v. elsewhere), medical school attended for residency training (French university in Quebec v. elsewhere) and type of practice (full-time v. part-time).

In view of the exploratory nature of this study and the absence of an a priori specified hypothesis, a p value of less than 0.05 (two-tailed) was accepted as the minimum criterion for significance. The Bonferroni correction for multiple significance testing was considered but was rejected as being too restrictive.

Results

Physician characteristics

Of the 200 GPs sent the questionnaire 146 (73%) replied. The demographic characteristics of the FMOQ members, the 200 GPs sent the questionnaire and the respondents are given in Table 3. We excluded 25 (17%) of the respondents because they indicated that they were not in practice, either full-time or part-time.

Referral practices

In all, 59% (70/119) of the respondents indicated that they referred patients to physicians who practise complementary health care services and 68% (80/118) to nonmedical practitioners. In most instances, the respondents were as likely to refer their patients to medical practitioners as to nonmedical practitioners for each of the three services studied. Acupuncture and chiropractic were the most popular for referral (Table 4). Sixty percent (72/121) of the respondents indicated that they knew the name of at least one practitioner of a complementary health care service in their area to whom they could refer patients.

Referral patterns for acupuncture did not differ significantly among the respondents according to the demographic characteristics or medical training and practice. For chiropractic, the only significant characteristic for

Table 2: Previous surveys of general practitioners' (GPs') views on complementary health care services*

Characteristic	Reilly[19]	Wharton et al[20]	Anderson et al[21]	Hadley[22]	Schachter et al[23]
Year survey reported	1983	1986	1987	1988	1992
Country	Britain	Britain	Britain	New Zealand	Israel
No. of respondents	86	145	222	173	89
Mean age, yr	NI†	NI	NI	NI	37
GPs who had prior training in services, no. (and %)	NI	55 (38)	26 (12)	40 (24)	15 (17)
GPs who wanted to know more about services, no. (and %)	70 (81)	22 (15)	93 (42)	90 (54)	77 (87)
GPs who practised services, no. (and %)	18 (21)	45 (31)	35 (16)	45 (27)	12 (13)
GPs who referred patients for services, no. (and %)	31 (36)	110 (76)	130 (59)	> 138 (> 80)	37 (42)
GPs who felt that services are useful, no. (and %)	76 (88)	86 (59)	120 (54)	83 (48)	48 (54)

*Adapted from Schachter et al.[23]
†NI = no information given.

referral patterns was place of birth: the GPs born outside of Canada were less likely than those born in Canada to refer patients to a nonmedical practitioner of chiropractic (25% [4/16] v. 59% [52/88]; $\chi^2 = 6.3$, 1 degree of freedom [df], $p = 0.01$). For hypnosis, the GP's medical school was the only significant characteristic for referral patterns, graduates of McGill University being more likely than those of other medical schools to refer patients to nonmedical practitioners of hypnosis (30% [3/10] v. 3% [3/101], $p = 0.008$, Fisher's exact test).

Perceived usefulness

Overall, 83% (101/121) of the respondents felt that at least one of the three services had some degree of usefulness (scores of 3, 4 or 5 on the Likert scale). Most felt that there was at least some degree of usefulness for each of the three services (Table 4). For both acupuncture and chiropractic the level of usefulness did not differ significantly among the respondents according to the demographic variables stated (Table 4).

The results of the multivariate linear regression analysis of perceived usefulness are given in Table 5. For acupuncture two significant predictors of usefulness emerged. First, the female GPs were more likely than their male counterparts to perceive acupuncture as having some use. Second, the GPs who were born in Canada were less likely than those born elsewhere to perceive acupuncture as useful. Nevertheless, this regression model accounted only for 12% of the variance explained. For chiropractic, the GPs who practised on a full-time basis were more likely than those who practised part time to perceive it as useful. This regression model accounted for 9% of the variance explained. For hypnosis, the older physicians were more likely than the younger ones to perceive it as useful. This model accounted for 14% of the variance explained. For all three complementary services combined, only sex was found

Table 3: Selected characteristics of all GPs in Quebec, a randomly selected subgroup sent a questionnaire on complementary health care services and those who responded

Characteristic	Group; no. (and %) of physicians			
	All GPs*	Study sample	Respondents	Response rate, %
Mean age, yr	44.4	NA†	41.4	NA
Sex				
Female	2362 (34)	67 (34)	53 (36)	79
Male	4688 (66)	133 (66)	93 (64)	70
Language				
French	6345 (90)	177 (88)	133 (91)	75
English	705 (10)	23 (12)	13 (9)	57
Total	7050 (100)	200 (100)	146 (100)	73

*Information was obtained from the Fédération des médecins omnipraticiens du Québec, to which all GPs in Quebec are members.
†NA = not available.

Table 4: GPs' referral practices, perceived usefulness, knowledge, prior training and desire for training in regards to complementary health care services

Characteristic	Service; % (and no.) of respondents*			
	Acupuncture	Chiropractic	Hypnosis	At least one†
Refers patients for service‡	68 (82/121)	58 (70/121)	12 (15/121)	77 (90/117)
Perceives service to have some degree of usefulness§	78 (92/118)	70 (78/111)	50 (51/103)	83 (101/121)
Has knowledge of service‖	11 (13/121)	10 (12/121)	8 (10/121)	21 (26/121)
Has prior training in service	8 (9/118)	2 (2/111)	3 (3/103)	20 (24/121)
Has desire for training in service	31 (37/121)	25 (29/116)	19 (22/116)	48 (57/118)

*Only the 121 GPs who were practising full-time or part-time are included.
†Includes the three services studied as well as others specified by the respondents.
‡To physicians who practise complementary health care services or to nonmedical practitioners of such services.
§Physicians who scored 3, 4 and 5 on the Likert scale (see Methods).
‖Physicians who scored 4 and 5 on the Likert scale (see Methods).

to be a significant predictor of usefulness (mean score for all three services combined; Cronbach's $\alpha = 0.69$). The female GPs were more likely than their male counterparts to perceive the three complementary health care services as useful. But, once again, the amount of variance explained by this model was only 10%.

Knowledge

Overall, self-reported knowledge of any complementary health care service was poor (Table 4). Knowledge of acupuncture and of chiropractic were associated with referral practices to physicians and nonmedical practitioners. For acupuncture, the self-reported knowledge was associated with an increased likelihood of referral: 50% (23/46) of the respondents who reported no or very little knowledge (scores of 1 or 2) referred their patients for acupuncture, as compared with 77% (47/61) of those who reported little knowledge (score of 3) and 85% (11/13) of those who reported a lot of knowledge (scores of 4 or 5) ($\chi^2 = 10.7$, 2 df, $p = 0.05$). For chiropractic, a somewhat different pattern emerged: 70% (38/54) of the respondents who reported little knowledge referred their patients for chiropractic, as compared with 58% (7/12) of those who reported a lot of knowledge and 46% (25/54) of those who reported no or very little knowledge ($\chi^2 = 6.4$, 2 df, $p = 0.04$).

The multivariate linear regression analysis revealed significant but weak predictors for self-assessed knowledge of the three complementary services, separately and combined (Table 6). The older GPs were reportedly more knowledgeable than the younger ones about hypnosis and the three services combined. Those born in Canada reported being more knowledgeable about chiropractic than those born elsewhere. The GPs whose residency training was at a French university in Quebec

Table 5: Multivariate linear regression coefficients for perceived usefulness* of acupuncture, chiropractic and hypnosis by physician characteristics

Characteristic	Service; coefficient			
	Acupuncture	Chiropractic	Hypnosis	All†
Age, yr	0.01	0.01	0.02‡	0.01
Sex (female = 1, male = 0)	0.56§	0.35	0.41	0.45‡
Place of birth (Canada = 1, elsewhere = 0)	−0.52‡	0.09	−0.51	−0.35
Medical school for residency training (French university in Quebec = 1, elsewhere = 0)	−0.17	0.30	−0.30	−0.07
Type of practice (full time = 1, part time = 0)	0.35	0.79‡	−0.13	0.36
R^2	0.12	0.09	0.14	0.10
No. of physicians	102	95	87	102

*Usefulness was measured on a 5-point Likert scale (1 = "Useless," 5 = "Very useful").
†Mean usefulness score for acupuncture, chiropractic and hypnosis (Cronbach's $\alpha = 0.69$).
‡$p < 0.05$.
§$p < 0.01$.

Table 6: Multivariate linear regression coefficients for self-assessed knowledge* of acupuncture, chiropractic and hypnosis

Characteristic	Service; coefficient			
	Acupuncture	Chiropractic	Hypnosis	All†
Age, yr	0.01	0.01	0.02‡	0.01‡
Sex (female = 1, male = 0)	−0.14	0.12	0.04	−0.10
Place of birth (Canada = 1, elsewhere = 0)	−0.04	0.42‡	0.38	0.26
Medical school for residency training (French university in Quebec = 1, elsewhere = 0)	0.43‡	0.40	0.82§	0.55§
Type of practice (full time = 1, part time = 0)	−0.05	0.08	0.04	0.03
R^2	0.09	0.10	0.13	0.17
No. of physicians	104	105	102	105

*Knowledge was measured on a 5-point Likert scale (1 = "Have never heard of it," 5 = "Know a lot/have received training in the practice of it").
†Mean knowledge score for acupuncture, chiropractic and hypnosis (Cronbach's $\alpha = 0.65$).
‡$p < 0.05$.
§$p < 0.01$.

reported being less knowledgeable about acupuncture and hypnosis and the three services combined than those whose residency training was at an English university in Quebec or elsewhere. But these regression models accounted for only 9% of the explained variance for acupuncture, 10% for chiropractic, 13% for hypnosis and 17% for all three.

The regression analysis of the mean combined knowledge scores revealed two significant predictors. First, knowledge of the three services increased with age. Second, the GPs trained at a French university in Quebec reported lower scores than those trained elsewhere. These two variables accounted for 17% of the variance explained in overall knowledge (Table 6).

Prior training

Overall, 20% (24/121) of the respondents reported having undergone training in at least one complementary health care service (Table 4). Thirteen percent (16/121) indicated that they currently practised one of them. These categories were not mutually exclusive, and some of the respondents indicated training in techniques other than acupuncture, chiropractic and hypnosis (Table 4).

Prior training in acupuncture was significantly associated with country of origin: those born outside of Canada were more likely than those born in Canada to have received training (24% [4/17] v. 3% [3/100], p = 0.01, Fisher's exact test). There were no statistically significant differences for any of the other complementary services.

Desire for training

Of the 118 GPs who responded to this question 57 (48%) indicated that they wanted training in at least one technique (Table 4).

A desire for training in acupuncture was significantly associated with sex, the female physicians being more likely than the male physicians to want training (44% [19/43] v. 32% [18/56], χ^2 = 5.60, 1 df, p = 0.02). In addition, McGill University undergraduates were significantly more likely than undergraduates from other universities to want training in acupuncture (80% [8/10] v. 20% [21/105], p = 0.0002, Fisher's exact test). None of the physician characteristics studied was significantly associated with the GPs' wanting training in any other complementary service.

The logistic regression analysis revealed two significant predictors of desire for more training. First, the female GPs were more than three times as likely as the male GPs to express an interest for more training in one of the three complementary services (odds ratio [OR] 3.2, p = 0.01). Second, the GPs who attended a French university in Quebec for their residency training were three times less likely than those who attended an English university in Quebec or elsewhere to ask for more training (OR 0.31, p = 0.05).

Discussion

This is the first Canadian study to look at GPs' referral practices, perceived usefulness, self-assessed knowledge, prior training and desire for more training with regard to complementary health care services. Most of the physicians surveyed referred their patients to at least one practitioner of a complementary health care service. Even more agreed that some of the techniques may have some use. However, self-assessed knowledge of any given technique was poor. Nearly half of the respondents indicated that they would like to have some form of training in at least one of the three services studied. Other studies support our findings that although few GPs have training in complementary health care services, many would like to have more training and many refer their patients to practitioners of such services.[19-23]

The relationship between self-reported knowledge, perceived usefulness and referral practices is complex. Little knowledge about a particular medical technique or specialty (e.g., physiotherapy) does not preclude a physician from perceiving it as useful and consequently referring his or her patients for treatment. However, the more one knows about a technique or specialty, the more qualified one would be to evaluate its usefulness objectively and, hence, the more likely one would be to make an appropriate and effective referral.

Our results suggest that sex, cultural background and medical training may be associated with different attitudes and practices of complementary health care services. However, given the chance factor associated with multiple testing and the small sample (margin of error for point estimates of around 9%), our findings should be interpreted with a certain degree of caution.

Our sample appears to be representative of the FMOQ membership in that the demographic characteristics of the respondents and the rest of the FMOQ members were comparable with regard to age, sex and language spoken. Although 17% (25/146) of the respondents indicated that they were not currently practising, this is similar to the proportion of FMOQ members not in practice (30%; FMOQ: personal communication, 1994). The FMOQ estimates are slightly higher and were based on somewhat different criteria.

This study had several weaknesses and limitations. First, we focused on only three complementary health care services. Second, other than face validity, we did not attempt to assess internal and external validity of the

questionnaire. Third, the small sample, multiple significance testing and possible effects of response bias may have affected our findings. Finally, the practices and attitudes of the GPs reported in this study may be unique to Quebec and hence not generalizable elsewhere.

Conclusion

Overall, many of the GPs surveyed reported that they refer their patients to practitioners of complementary health care services and think that some of these services are useful, yet few had knowledge about them. Physicians should have the ability to judge objectively the appropriate use of complementary health care services in order to counsel their patients on when they are indicated. A relatively large number of respondents reported a desire for more training in at least one complementary health care service. Education in complementary health care services should be incorporated into the medical curriculum and continuing medical education programs in Quebec.

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