ABSTRACT

Objective: We examined the factors related to consultations with both physicians and alternative practitioners, compared with visits to physicians only.

Methods: A telephone survey (random-digit dialling) collected information from 818 adults living in and around Saskatoon. Respondents reported consultations with alternative practitioners and physicians in the previous 12 months.

Results: Approximately one in five respondents had consulted both a physician and an alternative practitioner. Among respondents under 65 years of age, having one or more chronic medical conditions significantly increased the likelihood of concurrent use of care. Men, individuals suffering from back pain or migraines, those reporting an elevated level of distress, and those for whom spiritual values were important were also more likely to use both types of care.

Interpretation: Consultations with alternative care providers occur as an adjunct to, rather than a replacement of visits to physicians. Particular types of medical conditions as well as psychosocial and spiritual factors are determinants of concurrent use of physicians and alternative practitioners.

ABRÉGÉ

Objectif : Nous avons examiné les facteurs reliés aux consultations avec les médecins de même qu'avec les thérapeutes alternatifs; nous les avons comparés aux visites effectuées seulement chez les médecins.

Méthodes : À l'aide d'un sondage téléphonique (prélèvement de numéros de téléphone au hasard), des renseignements ont été recueillis auprès de 818 résidentes et résidents de Saskatoon et des environs. Les personnes interrogées ont signalé les visites effectuées chez le thérapeute alternatif et le médecin au cours des 12 derniers mois.

Résultats : Environ 1 personne interrogée sur 5 (19.2%) avait consulté à la fois un médecin et un thérapeute alternatif. Chez les personnes âgées de moins de 65 ans et affligées d'un ou de plusieurs maux chroniques, les chances d'avoir recours aux deux médecines simultanément augmentaient de façon significative. Les hommes et les gens souffrant de maux de dos ou de migraines, ayant signalé un niveau élevé de douleur, ou attachant de l'importance aux valeurs spirituelles étaient également plus enclins à consulter à la fois médecins et thérapeutes alternatifs.

Interprétation : La consultation de thérapeutes alternatifs vient compléter les visites chez le médecin plutôt que de les remplacer. Les maux dont souffrent les patientes et les patients de même que les facteurs psychosociologiques et spirituels jouent un rôle déterminant dans le recours concomitant aux médecins et aux thérapeutes alternatifs.

Concurrent Consultations with Physicians and Providers of Alternative Care: Results from a Population-based Study

Nazeem Muhajarine, PhD,[1] *Cordell Neudorf,* MD,[2] *Kathleen Martin,* MSc[3]

In Canada and elsewhere, the use of alternative therapies is widespread and increasing.[1-8] A national survey in 1994/95 estimated that 3.3 million Canadian adults (15%) contacted an alternative practitioner within the preceding year.[1] Similar surveys in other developed countries have found the use of alternative therapies to be even more common,[2-4] with one exception.[5]

While an emerging body of descriptive research has documented the prevalence and patterns of alternative care use,[1-6] important gaps in knowledge remain. For instance, studies have shown that many users of alternative medicine concurrently seek care from physicians;[4,6,7,9] however, very little is known about the factors that differentiate those who consult both physicians and alternative practitioners from those who consult only physicians. Studies of the use of alternative care among patients of family practitioners have used small, highly selected samples,[10,11] limiting their generalizability. In this population-based study, we examined the sociodemographic, psychosocial, and health-related factors related to consulting both physicians and alternative care providers, compared to consulting physicians only.

1. Associate Professor, Department of Community Health and Epidemiology, College of Medicine, University of Saskatchewan, Saskatoon, SK
2. Director, Strategic Health Information and Planning Services, Saskatoon District Health, Royal University Hospital, Saskatoon, SK
3. Director, Organizational Development and Health, Saskatoon District Health, Royal University Hospital, Saskatoon, SK

Correspondence: Dr. Nazeem Muhajarine, Department of Community Health and Epidemiology, College of Medicine, University of Saskatchewan, 107 Wiggins Road, Saskatoon, SK S7N 5E5, Fax : 306-966-7920, E-mail: muhajarinen@sask.usask.ca

MATERIALS AND METHODS

Sample

The population targeted by this study consisted of adults, 20 years or older, living in the city of Saskatoon and the surrounding region (population 220,000). A telephone survey was conducted between May 25 and May 30, 1998. The sample was selected through random-digit dialling[12] and was stratified by age and rural/urban residence. Selection was limited to English-speaking persons, one respondent per household. We assessed that with a sample of 800 persons, we could estimate the prevalence of consulting health providers ranging from 10 to 35% with a margin of error of 3-4%, 19 out of 20 times.[13]

Interview

The interview collected information on health status and behaviour, health care utilization, caregiving, psychosocial factors, and sociodemographic characteristics. Specific questions asked respondents about their use of alternative medicine, adapted from items in a previous national survey. The interviewers' text read : "People may also use alternative or complementary medicine. Alternative practitioners include chiropractors, acupuncturists, homeopaths, etc. In the last 12 months, have you seen or talked to an alternative health care provider about your physical, emotional or mental health?" If the response was affirmative, respondents indicated the types of practitioners they had contacted. Respondents were also asked whether they had visited a general practitioner or other specialist in the previous 12 months.

Study variables

Visits to Physician/Alternative Care Provider

Respondents who reported having visited a general practitioner or other specialist

TABLE I
Percentage* of Respondents who Consulted a Physician or Provider of Alternative Care by Chronic Medical Conditions, Saskatoon District, 1998 (N=818)

	Consulted Physician and Alternative Care Provider	Consulted Physician but Not Alternative Care Provider	Consulted Alternative Care Provider but Not Physician	Consulted Neither Physician Nor Alternative Care Provider
Chronic Condition	(n=157)	(n=569)	(n=11)	(n=81)
Asthma	12 (21.4)	41 (73.2)	–	3 (5.4)
Arthritis	34 (18.7)	139 (76.4)	1 (0.5)	8 (4.4)
Back pain (excluding arthritis)	69 (36.5)	110 (58.2)	2 (1.1)	8 (4.2)
High blood pressure	15 (16.7)	72 (80.0)	1 (1.1)	2 (2.2)
Migraine headaches	29 (30.9)	59 (62.8)	–	6 (6.4)
Bronchitis or emphysema	5 (17.9)	19 (67.9)	2 (7.1)	2 (7.1)
Diabetes	5 (13.5)	30 (81.1)	–	2 (5.4)
Osteoporosis	4 (10.5)	32 (84.2)	–	2 (5.3)

* Percentage of those who reported the condition.

in the previous 12 months were considered to have consulted a physician. Similarly, respondents who indicated that they had seen or talked to an alternative practitioner in the previous 12 months were considered to have consulted an alternative provider. Combining responses to these two items results in four categories: a) consulted a physician *and* alternative provider, b) consulted a physician but *not* an alternative provider, c) consulted an alternative provider but *not* a physician, and d) *did not* consult either type of provider. In the analysis reported here, we compared those who consulted both types of providers to those who consulted a physician only (a versus b).

Health Status

Four measures of health were used. First, respondents indicated whether they had any chronic medical conditions diagnosed by a health care provider in the previous 12 months, from a list of eight conditions: asthma, arthritis or rheumatism, back problems excluding arthritis, high blood pressure, migraines, bronchitis or emphysema, diabetes, and osteoporosis. Respondents were classified into two categories: those reporting none and those reporting one or more conditions. Second, a series of items asked about long-term disabilities (long-term illness, ongoing effects of an injury, disability or chronic weakness, difficulty using hands or all fingers, difficulty walking or getting around, and emotional problems) that had lasted or were expected to last 6 months or more. Positive responses to items on long-term disabilities were counted and respondents classified into three categories: those reporting none, one or two, or three or more conditions. Third, respondents assessed their overall health on a 5-point scale, from excellent to poor. Fourth, a 4-point Likert-scale item measured the importance of spiritual values in respondents' lives, from very important to not important at all.

Psychosocial Variables

Six standardized items describing symptoms of distress in the previous month (e.g., feeling...so sad that nothing could cheer you up, feeling restless and fidgety) collected responses on a 5-point Likert-scale, and the scores were summed across all items.[14] The total distress score was divided into tertiles (1=low, 2=moderate, and 3=high distress).

Sociodemographic Variables

Information was collected on age, sex, rural/urban residence, education, income, and Aboriginal/non-Aboriginal ancestry.

Statistical analysis

We weighted the data to match our sample to the distribution of the Saskatoon district adult population, according to Saskatchewan Health Insurance Registration data, for age (in 5-year intervals), sex, and rural/urban residence. We used normalized sample weights in analysis of these data. Sample weights assigned to each respondent were divided by the mean sample weight to adjust for differing sampling probabilities.

Contingency tables and chi-square statistics were used to examine bivariate differences among those who visited both types of providers and those who consulted physicians only, on health status, psychosocial, and sociodemographic variables. Logistic regression was used to identify variables independently related to the outcome variable, and which collectively predicted the observed data most closely. Interaction effects, determined a priori, were evaluated using the likelihood ratio test statistic and by stratified tables. Fit of the final model was evaluated using the Hosmer-Lemeshow goodness-of-fit statistic.[15]

RESULTS

In the 12 months preceding the survey, almost one out of five respondents (19.2%, n=157) had contacted both a physician and an alternative provider, while 69.5% (n=569) reported having contacted a physician but not an alternative practitioner. Only 1.3% (n=11) had contacted an alternative practitioner but not a physician, while 9.9% (n=81) had not contacted either type of health care provider. The proportion of those who saw a physician and an alternative care provider was highest for respondents reporting back pain (36.5%), followed by migraine headaches (30.9%), and asthma (21.4%) (Table I). Respondents suffering from osteoporosis (10.5%), diabetes (13.5%), and high blood pressure (16.7%) were least likely to have consulted both types of providers.

The proportion of respondents who had consulted both physicians and alternative

TABLE II
Characteristics of Respondents who Consulted Physicians and Providers of Alternative Care Compared with Those who Consulted Only Physicians

Characteristics	Consulted Physician and Provider of Alternative Care (n=157) n	(%)	Consulted Physician but Not Provider of Alternative Care (n=569) n	(%)
Age* (years)				
20-34	53	(33.7)	173	(30.4)
35-49	58	(36.9)	182	(31.9)
50-64	32	(20.4)	104	(18.3)
65-79	10	(6.4)	80	(14.0)
80+	4	(2.5)	30	(5.3)
Sex*				
Male	85	(54.1)	254	(44.6)
Female	72	(45.9)	315	(55.4)
Location of Residence				
Urban	108	(68.8)	414	(44.6)
Rural	49	(31.2)	154	(55.4)
Ethnicity				
Aboriginal	13	(8.3)	31	(5.5)
Non-Aboriginal	144	(91.7)	535	(94.5)
Income Level				
Lowest	19	(12.1)	48	(8.4)
Lower middle	38	(24.2)	182	(32.0)
Upper middle	43	(27.4)	135	(23.8)
Highest	29	(18.5)	85	(14.9)
Refused/don't know	28	(17.8)	118	(20.8)
Education Level				
<Grade 12	37	(23.6)	141	(24.8)
High school diploma	34	(21.6)	116	(20.4)
Trade school diploma	47	(29.9)	129	(22.7)
University	39	(24.8)	183	(32.2)
Self-rated Health				
Excellent	34	(21.6)	137	(24.1)
Very good	54	(34.4)	192	(33.7)
Good	48	(30.6)	162	(28.5)
Fair	17	(10.8)	58	(10.2)
Poor	4	(2.5)	20	(3.5)
Number of Disabilities†				
None	75	(48.4)	338	(59.4)
One or two conditions	52	(33.5)	174	(30.6)
Three or more conditions	28	(18.1)	57	(10.0)
Number of Chronic Conditions†				
None	55	(35.2)	227	(48.7)
One or more	102	(64.8)	292	(51.3)
Distress Score (tertiles)†				
Low	47	(30.1)	257	(45.2)
Moderate	49	(31.4)	147	(25.8)
High	60	(38.5)	165	(29.0)
Importance of Spiritual Values*				
Very important	58	(38.4)	172	(31.0)
Moderately	54	(35.8)	210	(37.8)
Not very important	23	(15.2)	97	(17.5)
Not at all important	16	(10.6)	76	(13.7)

* p<0.05; † p<0.01

practitioners varied significantly by age, sex, chronic conditions, long-term disabilities, hospital days, psychosocial distress, and the importance of spiritual values (Table II). Proportionately more men than women had contacted both types of providers. Respondents 65 years and older were much less likely to have consulted both types of health care providers than younger respondents. Therefore, in further analysis age was dichotomized (<65 years versus ≥65 years).

Table III presents the variables in the final logistic regression model that were significantly related to consulting both physicians and alternative practitioners, and that also demonstrated the best fit to the observed data ($X^2 = 3.72$, $p = 0.88$). Age and gender remained significant independent correlates, with age also showing an interaction effect with chronic conditions. Male respondents, compared to females, were 51% more likely to have consulted both physicians and alternative practitioners. Respondents who reported suffering from back pain were 3.5 times more likely, and those experiencing migraine headaches 76% more likely to have contacted physicians and alternative practitioners, compared to those who did not report these conditions.

Respondents who reported moderate or high levels of distress, compared to low, were 75% more likely to have consulted physicians and alternative care providers. Those who indicated that spiritual values were more important reported a higher likelihood of contacting both types of providers. Those who were younger than 65 years and who suffered from one or more chronic medical conditions, compared to none, were more than twice as likely to have consulted both physicians and alternative care providers (Table IV). Among older respondents (65 years or over), the relationship between chronic conditions and alternative care consultations was not statistically significant.

DISCUSSION

We found that 88.8% of those interviewed had consulted a physician in the year before the survey, while 20.5% had consulted an alternative practitioner. Almost all those who had contacted an alternative care practitioner (93.5%) had also seen a physician, but only a fifth of those who had consulted a physician (21.6%) had also contacted an alternative provider. Extrapolating these results, we estimate that slightly more than one in five Saskatoon residents who consult their physicians may also be seeing alternative practitioners. These results suggest that consultations with alternative care providers occur as adjuncts to physician visits, since few individuals consulted alternative practitioners only. This underscores the importance of open communication between provider and patient, to better coordinate treatment methods and minimize potential harm due to adverse interactions.

The findings that the use of alternative health care providers is not uncommon and that individuals who seek alternative care tend to do so in conjunction with conventional medical care, are corroborated by other studies.[4,6,16] Unlike these previous studies, however, our definition of alternative care use included only formal consultations with practitioners (i.e., excluding self-care). While this is a more

restrictive definition, it is comparable to the variable defining use of physician care. Our findings support the claim that most individuals are not turning away from conventional medicine,[17] but rather widening their choices by seeking a greater variety in types of care.

Information about the conditions for which individuals seek different types of care can help the physician (and the alternative practitioner) better care for their patients. In this survey, respondents with back pain, migraine headaches and, to a slightly lesser extent, asthma, were most likely to consult alternative care providers. Put differently, one in three patients the physician sees for back problems or migraine headaches is also likely to be consulting a provider of alternative therapy. These results suggest that concurrent use of providers is not limited to life-threatening diseases such as cancer and AIDS,[18,19] but also occurs with more common chronic conditions.

The relationships between age, gender, chronic conditions and concurrent use of physicians and alternative care providers were fairly complex. First, among respondents younger than 65 years, having one or more chronic conditions more than doubled the odds of seeing both types of providers, compared to those with no chronic conditions. This relationship was not observed among individuals 65 years or older. Younger people with chronic conditions may be less accepting of impaired health and more likely to seek out a variety of providers to help them regain their normal level of health. They may also be more open to using alternative care, especially if conventional medical care does not meet their expectations. Another explanation is that the majority of older respondents report one or more chronic conditions, reducing the heterogeneity in this group.

Second, men were more likely than women to use both a physician and an alternative care provider. While this result was unexpected (since most previous studies had found the opposite relationship), further examination revealed that this relationship was explained in part by a higher proportion of younger men, compared to women, reporting chronic back pain and having consulted a chiropractor.

While specific medical conditions were among the important correlates of concurrent use of physicians and alternative practitioners, other non-medical reasons were also significant predictors of seeking alternative care. We found that a high level of distress was associated with a higher likelihood of consulting both physicians and alternative therapists. While the importance of this psychological dimension is in addition to the physical conditions reported, we are unable to state the source of this

TABLE III
Final Logistic Regression Model Comparing Respondents who Consulted Physicians and Providers of Alternative Care with Those who Consulted Only Physicians (n=713)

Characteristics	Unadjusted Odds Ratio (95% Confidence Interval)	Adjusted Odds Ratio (95% Confidence Interval)
Age (years)		
20-64	2.48 (1.51, 4.09)	1.14 (0.41, 3.17)
65+	1.00 (...)	1.00 (...)
Sex		
Male	1.47 (1.09, 1.98)	1.51 (1.08, 2.11)
Female	1.00 (...)	1.00 (...)
Number of Chronic Conditions		
None	1.00 (...)	1.00 (...)
One or more	1.79 (1.31, 2.43)	0.34 (0.10, 1.10)
Number of Disabilities		
None	1.00 (...)	1.00 (...)
1 or 2 conditions	1.35 (0.97, 1.88)	0.96 (0.65, 1.42)
3 or more	2.20 (1.43, 3.41)	1.37 (0.81, 1.29)
Chronic Back Pain?		
Yes	3.31 (2.41, 4.54)	3.53 (2.29, 5.44)
No	1.00 (...)	1.00 (...)
Migraine headaches?		
Yes	1.94 (1.29, 2.93)	1.76 (1.07, 2.88)
No	1.00 (...)	1.00 (...)
Distress Score (tertiles)		
Low	1.00 (...)	1.00 (...)
Moderate/High	1.92 (1.39, 2.63)	1.75 (1.23, 2.49)
Importance of Spiritual Values	1.18 (1.01, 1.38)	1.19 (1.00, 1.41)
Number of Chronic Conditions X Age Group*		

* Likelihood ratio test, G=1.80 (degree of freedom,1); p = 0.18
Note: Hosmer-Lemeshow goodness-of-fit X^2 (degree of freedom, 8) = 3.72; p = 0.882

TABLE IV
Stratified Analysis of Chronic Medical Conditions and Consultations with Physicians and/or Alternative Care Providers, by Respondents' Age

	< 65 years				≥ 65 years			
	n	Consulted Physician and Alternative Care Provider	Consulted Physician but Not Alternative Care Provider	Odds Ratio (95% CI*)	n	Consulted Physician and Alternative Care Provider	Consulted Physician but Not Alternative Care Provider	Odds Ratio (95% CI)
≥1 Chronic Conditions*	298	92 (30.9)	206 (69.1)	2.22 (1.52, 3.22)	97	11 (11.3)	86 (88.7)	1.02 (0.27, 3.94)
No Chronic Conditions	304	51 (16.8)	253 (83.2)	1.00 (...)	27	3 (11.1)	24 (88.9)	1.00 (...)

* Chronic conditions: asthma, arthritis, back pain, high blood pressure, migraine headaches, bronchitis or emphysema, diabetes, or osteoporosis; CI, confidence interval.

distress or the direction of its association with alternative care. Psychological distress could result from physical conditions themselves, or it could be due to the very nature of multiple consultations that patients engage in with a variety of providers.

Interestingly, we found the greater the value that respondents attached to spirituality, the greater the likelihood of their having contacted both physicians and alternative therapists. Two other studies reported similar findings.[2,17] The importance of the notion of spirituality to the use of alternative care may reflect some individuals' belief that alternative providers' value system is more consistent with their own (e.g., a more holistic, multidimensional understanding of health and treatment of illness, more emphasis on enhancing positive health).[2,20] Those who consider spirituality to be more important may also use such practices as prayer and meditation not only as expressions of spirituality but also as alternative ways of dealing with illness, and thus be more likely to contact alternative providers who are sympathetic to such practices.

ACKNOWLEDGEMENTS

The authors acknowledge the contribution of the fellow members of the Saskatoon District Health's Population Health Research Advisory Committee.

REFERENCES

1. Millar WJ. Use of alternative health care practitioners by Canadians. *Can J Public Health* 1997;88:154-58.
2. Astin JA. Why patients use alternative medicine: Results of a national study. *JAMA* 1998;279:1548-53.
3. MacLennan AH, Wilson DH, Taylor AW. Prevalence and cost of alternative medicine in Australia. *Lancet* 1996;347:569-73.
4. Thomas KJ, Carr J, Westlake L, Williams BT. Use of non-orthodox and conventional health care in Great Britain. *BMJ* 1991;302:207-10.
5. Bernstein JH, Shuval JT. Nonconventional medicine in Israel: Consultation patterns of the Israeli population and attitudes of primary care physicians. *Soc Sci Med* 1997;44:1341-48.
6. Eisenberg DM, Kessler RC, Foster C, et al. Unconventional medicine in the United States. Prevalence, costs, and patterns of use. *N Engl J Med* 1993;328:246-52.
7. Shenfield GM, Atkin PA, Kristoffersen SS. Alternative medicine: An expanding health industry. *Med J Aust* 1997;166:516-17.
8. Murray RH, Rubel AJ. Physicians as healers—unwitting partners in health care. *N Engl J Med* 1992;326:61-64.
9. Blais R, Maiga A, Aboubacar A. How different are users and non-users of alternative medicine? *Can J Public Health* 1997;88:159-62.
10. Elder NC, Gillcrist A, Minz R. Use of alternative health care by family practice patients. *Arch Fam Med* 1997;6:181-84.
11. Drivdahl CE, Miser WF. The use of alternative health care by a family practice population. *J Am Board Fam Pract* 1998;11:193-99.
12. Groves RM, Biemer PP, Lyberg LE, et al. (Eds.), *Telephone Survey Methodology*. New York, NY: John Wiley, 1988.
13. Lwanga SK, Lemeshow S. *Sample Size Determination in Health Studies. A Practical Manual.* Geneva: World Health Organization, 1991;25.
14. Wade TJ, Cairney J. Age and depression in a nationally representative sample of Canadians: A preliminary look at the National Population Health Survey. *Can J Public Health* 1997;88:297-302.
15. Hosmer D, Lemeshow S. *Applied Logistic Regression*. New York, NY: John Wiley & Sons, 1989;25-58.
16. Northcott HC, Bachynsky JA. Concurrent utilization of chiropractic, prescription medicines, nonprescription medicines and alternative health care. *Soc Sci Med* 1993;37:431-35.
17. Furnham A, Forey J. The attitudes, behaviors and beliefs of patients of conventional vs. complementary (alternative) medicine. *J Clin Psychol* 1994;50:458-69.
18. Cassileth BR, Lusk EJ, Strouse TB, Bodenheimer BJ. Contemporary unorthodox treatments in cancer medicine: A study of patients, treatments, and practitioners. *Ann Intern Med* 1984;101:105-12.
19. Anderson WH, O'Connor BB, MacGregor RR, Schwartz JS. Patient use and assessment of conventional and alternative therapies for HIV infection and AIDS. *AIDS* 1993;7:561-65.
20. Fuller RC. *Alternative Medicine and American Religious Life*. New York, NY: Oxford University Press, 1989.

Received: August 27, 1999
Accepted: May 11, 2000

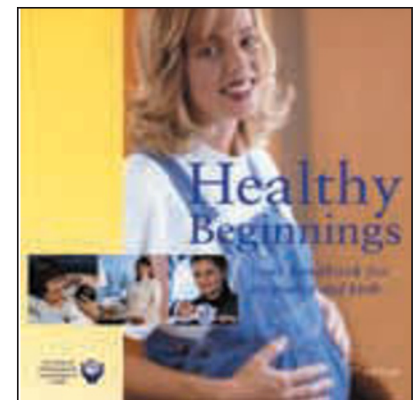
AVAILABLE FROM CPHA'S HEALTH RESOURCES CENTRE

Healthy Beginnings

Your handbook for pregnancy and birth

The Society of Obstetricians and Gynaecologists of Canada, 2000 $19.95

Having a healthy, full size baby is much more than the result of playing genetic roulette. *Healthy Beginnings*, the newest and most comprehensive book about pregnancy and childbirth written by Canadian medical experts for Canadians, conveys the key message that a mother's nutrition, lifestyle, work and exercise habits play a crucial role in a baby's development and health.



Healthy Beginnings was written by obstetricians-gynaecologists with the help of nutrition and breastfeeding specialists from across the country. As a result, it provides a uniquely Canadian perspective on birthing.

Healthy Beginnings describes each stage of having a baby, including pre-pregnancy when a woman may be thinking about having a child. It explains the physical, hormonal and emotional changes a woman's body experiences through pregnancy and childbirth, and offers suggestions on how to ensure the mother – and her developing baby – receive adequate nutrition, exercise and rest. Breastfeeding and newborn care are also discussed.

Order today from the CPHA Health Resources Centre
400-1565 Carling Avenue, Ottawa, ON K1Z 8R1
613.725.3769 613.725.9826 hrc@cpha.ca