Visits by Adults to Family Physicians for the Common Cold

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BACKGROUND. It is commonly believed that doctor's office visits for upper respiratory tract infections (URTI) occur too often given the self-limited nature of such illnesses. However, the frequency of visits for URTIs has not been well studied. We examined how often a large population of adults visited doctors when they had a cold, the degree to which they engaged in self care, and the characteristics of those seeking care.

METHODS. We performed a secondary analysis of a population-based survey of 42,333 adults in the province of Ontario, Canada. Adults reporting an URTI in the previous 2 weeks were included. Multiple logistic regression was used to compare adults who made an office visit with those that did not, for differences in sociodemographic characteristics, health status, sick days, over-the-counter (OTC) medication use, and life satisfaction.

RESULTS. Only 14% of the adults studied visited a doctor for an URTI. Most (76%) engaged in self care with OTC medications. Adults who visited a family physician were less likely to have taken an OTC medication (odds ratio [OR] = .11; 95% confidence interval [CI], .07 - .19), and were more likely to have experienced three or more sick days (OR = 2.70; CI, 1.41 - 5.17), live in a larger household (OR = 1.88; CI, 1.37 - 2.57), not have completed high school, and be unhappy (OR = 2.47; CI, 1.35 - 4.52).

CONCLUSIONS. The majority of adults do not visit a doctor when they have a cold, and most engage in self care. Illness severity, and its impact on patients and their families, seems to influence the decision to seek care.

KEY WORDS. Respiratory tract infections; physicians, family; office visits; self care. *(J Fam Pract 1998; 47:366-369)*

Upper respiratory tract infections (URTIs) account for a large proportion of visits to doctors.[1] Antibiotics are prescribed in 30% to 75% of URTI encounters,[2-5] which may promote office visits for future URTI episodes[6] and may contribute to antibiotic resistance.[7] It has been suggested that the high number of URTI visits may result from expectations for antibiotics and a lack of knowledge about the natural history of URTIs.[8]

It has been estimated that 8% to 9% of people with a sore throat visit a doctor.[9,10] This suggests that few people seek medical care, at least for some URTIs. However, this estimate may not accurately reflect current tendencies to seek care. We examined a survey of Canadians to determine how often adults visited a doctor when they had a cold, if they attempted self care, and what differentiated those who made a visit from those who did not.

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METHODS

The Ontario Health Survey, conducted from January 1990 to November 1990 by the Ministry of Health, was a cross-sectional, population-based study of 65,000 individuals in Ontario, Canada.[11] Our 1997 study was a secondary analysis of this data. The survey incorporated a multistage, random-cluster sampling strategy to select households within census areas. There was an interviewer-administered questionnaire (response rate: 87%) and a self-administered questionnaire for people aged 12 years or older (response rate: 77%).

One person in each household was asked sociodemographic and health-related questions about all household members.[12] Part of the survey asked respondents about health problems in the previous 2 weeks. Health problems were included if they caused a person to stay in bed, cut back on usual activities, use over-the-counter (OTC) or prescription medications, or contact a health professional.[12] Problems were coded by Statistics Canada using ICD-9-CM classification.[11] There was no independent validation of the self reports.

Our study was limited to adults aged 20 years or older who were assigned one of the following ICD-9 codes for a health problem in the preceding 2 weeks: URTI (460), sinusitis (461), pharyngitis (462), tonsillitis (463), laryngitis or tracheitis (464), and URTI of multiple or unspecified sites (465).[13] The behavioral model of

health care utilization and an earlier study of visits to family physicians in the same province were used to select factors that might explain why some people chose to visit a doctor.[14,15] The behavioral model considers use of health services by a person in terms of certain predisposing characteristics (eg, sociodemographics), the need for medical care (eg, health status), and enabling characteristics (eg, health insurance and prescription drug insurance).

Variables selected for consideration included sociodemographic characteristics (age, sex, marital status, urban-rural residence, education level, household income level, employment status, and immigration status), health status characteristics (self-reported health status and number of health problems), and whether someone had prescription drug insurance. (Health care in Canada is publicly funded for hospital and physician services.) The severity of a particular URTI illness was not directly assessed. Therefore, the number of days a person spent in bed or the number of days a person had to cut back on their usual activities as a result of an URTI was used as a proxy for severity.

The association between variables and making an office visit for a cold was assessed using a chi-square test.[16] Significant characteristics ($P < .05$) were retained for multivariate modeling, using multiple logistic regression by the method of maximum likelihood estimation.[17] Estimates were weighted to account for the nonrandom probability of being included in the sample, and variances were adjusted for the cluster design.[18] The final model retained variables significant at a level of $P < .05$.

RESULTS

Of 42,333 adults in the survey, 1571 (3.6%) reported an URTI in the previous 2 weeks. The majority were common colds (acute nasopharyngitis, 88.8%), with others reported as pharyngitis (9.2%), tonsillitis (1.2%), laryngitis or tracheitis (.7%), and sinusitis (.1%). Most adults experienced no limitation in activities (67.4%); however, 10.9% had three or more sick days. Approximately three fourths (75.8%) reported use of an OTC cold medication, while a minority of adults with an URTI (14.3%) chose to visit a family physician. Of those who saw a physician, 57.4% reported that they took a prescription drug.

Age, sex, marital status, employment status, urban residence, place of birth, household income, and general health status were not associated with an office visit for an URTI (Table 1). Less education was associated with being more likely to visit a family physician for a cold; 21.3% of those who had not completed high school visited a doctor for an URTI, compared with 12.3% of those who had completed high school and 11.2% of those with postsecondary education ($P = .006$). Adults earning wages or salaries were less likely to visit a doctor (13.1%) compared with people receiving income from other sources, including general welfare (22.5%, $P = .03$). Use of an OTC medication was associated with being less likely to visit a physician for a cold (6.5% vs 38.4%, $P < .001$).

Visits to a family physician for an URTI increased when activities had been affected for three or more days. The proportion of adults visiting a physician was 12.3% with no sick days, 9.6% with 1 sick day, 11.4% with 2 sick days, 28.5% with 3 to 5 sick days, and 36.0% with more than 5 sick days ($P < .001$). Living in a household with four or more people, having prescription drug insurance, and being somewhat unhappy were also associated with being more likely to make an office visit for a cold.

Table 2 indicates the logistic regression results, adjusting for all significant variables in the bivariate comparisons, as well as age, sex, and general health status. These variables remained unrelated to making an office visit for an URTI. People who had not completed high school were still more likely to make an office visit for an URTI than adults who completed high school (OR = .52; CI, .29 - .94), or who had postsecondary education (OR = .48; CI, .25 - .91). An URTI-related office visit was also more likely for adults in larger households

TABLE 1

Proportion of Adults Visiting a Doctor for a Cold, by Selected Characteristics

Characteristic	No.	Percent Who Visited Physician*	P†
Age, years			
Sample	1571	14.3	
20 to 39	860	13.2	
40 to 64	564	15.0	
≥65	147	18.8	.44
Sex, female	855	14.5	.82
Married or common law	1211	14.3	.95
Household of four or more	656	16.8	.006
Not currently working	483	16.2	.19
Born outside Canada	183	18.0	.42
Did not finish high school	484	21.3	.006
Low household income	200	16.4	.25
Income from benefits	230	22.5	.03
Urban residence	1130	14.6	.26
Has drug insurance	1162	16.0	.01
≥4 health problems	292	17.3	.54
Fair or poor health	151	17.9	.22
≥3 sick days	185	30.8	<.001
Somewhat happy	474	20.6	.03
No OTC medication use	347	38.4	<.001

OTC denotes over the counter.
*Weighted frequencies.
†Standard error adjusted for stratified, clustered sampling.

(OR = 1.88; CI, 1.37 - 2.57), adults who were not usually happy (OR = 2.47; CI, 1.35 - 4.52), and adults having three or more sick days (OR = 2.70; CI, 1.41 - 5.17). There was a tendency towards a visit being more likely for people with drug insurance (OR = 2.04; CI, .97 - 4.29). Use of an OTC medication was still associated with being less likely to make an office visit (OR = .11; CI, .07 - .19).

TABLE 2

Multiple Logistic Regression Model of Factors Associated with Visiting a Family Physician for a Cold

Variable	Odds Ratio*	(95% CI)
Age, years		
20 to 39	1.00	
40 to 64	1.26	(.80 - 2.00)
≥65	1.02	(.41 - 2.53)
Sex		
Male	1.00	
Female	1.13	(.72 - 1.77)
Perceived health		
Excellent or very good	1.00	
Good	.83	(.47 - 1.46)
Fair or poor	.55	(.23 - 1.28)
Education level completed		
Less than high school	1.00	
High school	.52	(.29 - .94)
Postsecondary	.48	(.25 - .91)
Number of people in household		
≤ 3	1.00	
≥ 4	1.88	(1.37 - 2.57)
Drug insurance		
No	1.00	
Yes	2.04	(.97 - 4.29)
Usually happy and interested in life		
Yes	1.00	
No	2.47	(1.35 - 4.52)
Days of limited activity		
≤ 2	1.00	
≥ 3	2.70	(1.41 - 5.17)
OTC medication use		
No	1.00	
Yes	.11	(.07 - .19)

CI denotes confidence interval; OTC, over the counter.
*Adjusted for age, sex, perceived health, education, household size, drug insurance, happiness, number of sick days, and OTC medication use.

DISCUSSION

We found that only 1 in 7 adults with an URTI sought medical care from a family physician. This runs counter to the common perception that people too readily visit doctors for minor illnesses, such as colds.[8,19] Most adults engaged in self care; 76% reported taking an OTC medication. These observations suggest that most Canadian adults manage their own colds and exercise discretion when deciding whether URTIs warrant medical attention.

There was a clear relationship between the number of days that a person was sick and the decision to seek medical care. Persistent symptoms have been associated with patient concerns that an URTI may progress to a more serious illness.[20] Uncertainty about the seriousness of an illness would seem reasonable grounds to seek medical advice. There also appeared to be a threshold of 2 days of being in bed or limiting activities after which patients are more likely to visit a physician. If there was telephone advice from nurses available at this point in time, that could be sufficient to reassure some people and avert unnecessary office visits.

Although the duration of impairment was important, 76% of those visiting a family physician were sick for less than 3 days, and 65% had not tried OTC medications. It may be that these people felt OTC medications would not be helpful for their URTIs and, instead, an office visit was needed. However, another study in family practice found that three fourths of patients perceived themselves as either not ill or slightly ill when they consulted a doctor.[21] While this might suggest that some people are more likely to consult with a doctor, we found few determining characteristics of the adults themselves that explained whether a visit would be made.

General health status, frequently the most important factor in studies of office visits,[14,15] was not important in explaining visits for colds. Women visit doctors more frequently than men,[1,15] but not for colds. We did observe that people who had not completed high school were more likely to make an office visit for an URTI. This may indicate that a lack of knowledge about when to go to the doctor is a factor.[8] However, public education campaigns aimed at promoting self care for URTIs have had limited success in decreasing office visits.[19,22]

The failure of these campaigns may be related to our observation that 85% of adults do not seek medical care for URTIs. Therefore, even an effective community strategy would have a limited margin for improvement. While small decreases in visit rates may still be important, given the overall volume of visits and the levels of antibiotic use, the potential of community-based strategies may be more limited than previously realized.

The association between the number of people in a household and URTI-related visits may reflect the influence of social support on office visits.[23] Advice from others may be an important factor in the decision to consult a physician.[21] The degree to which an individual felt happy

and interested in life also influenced the decision to visit a doctor for a cold. Depressed mood has been associated with greater use of medical services in general.[24]

A prescription drug was taken by 57% of those who saw a physician, similar to a 51% prescription rate for colds in the United States.[2] This may suggest that many visits were appropriate, as an objective assessment by a physician supported the need for a prescription medication. However, this may also be related to perceived[25] or real patient expectations[8,26] for antibiotics, rather than an objective medical indication. Patients may perceive that receiving an antibiotic validates their decision to visit the doctor.[6,8]

A previous Canadian study found that 16% of adult patients with URTI symptoms contacted a health professional, and 8% visited their family physician.[9] Our study only included URTIs that caused people to take a medication, visit a physician, or experience limitation in activities. Had milder URTI illnesses been included, the proportion of URTI illnesses resulting in an office visit would be even lower. Thus, our study supports the conclusions that only a fraction of all URTI illnesses result in a visit to the doctor, and care-seeking behavior for URTIs has not changed in recent years.

CONCLUSIONS

Our study shows that the majority of Canadian adults do not visit a family physician when they have a cold, and most engage in self care. Public education initiatives aimed at decreasing office visits for colds may not be cost-effective, as there is a small margin for improvement. There are few differences between adults who make visits and those who do not. It is likely that the severity of a given URTI illness and its impact on the individual and his or her family contribute to office visits for colds.

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