

Perceptions and Behaviors of Patients with Upper Respiratory Tract Infection

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A questionnaire was administered to outpatients with uncomplicated viral upper respiratory tract infection in order to study the perceptions and behaviors of these individuals. Most patients sought advice or prescriptions to treat symptoms, felt that their symptoms had lasted longer than expected, or were worried that their symptoms could represent serious illness. There was considerable misunderstanding of the natural history of untreated upper respiratory tract infection and of the role of penicillin. The reasons for these findings and their implications for providers of primary care are discussed.

Primary care physicians are well aware that seemingly trivial illness accounts for a large percentage of patient visits. From the point of view of providers of health care, many of these encounters are perceived as an unnecessary utilization of the health care system. However, from the patient's point of view, the encounter is viewed in most cases as legitimate. These disparate views are not surprising, since patients are motivated to seek medical care for a variety of reasons that may not be immediately obvious to health care providers.

The upper respiratory tract infection (URI) of viral origin is a prototype of this category of illness. In order to elucidate patient behavior vis-a-vis URI, a questionnaire was administered to a series of patients who sought care for URI at the Medical Care Group, a prepaid group practice affiliated with the Washington University School of Medicine. This survey was in progress at a time when URI accounted for 15 to 50 percent of visits to acute care facilities in the St. Louis area.¹ Although a few cases of influenza were documented in St. Louis toward the end of the study period, the majority of these illnesses appeared clinically to represent noninfluenzal viral infection.

An attempt was made to answer the following

questions: What motivates the patient to seek medical care for URI? What is the patient's understanding of the natural history of an untreated URI? What are the patient's expectations concerning the use of medications, including antibiotics, in the treatment of URI? Does the prepaid structure affect the patient's decision to seek care for URI?

Methods

A questionnaire* was given to a series of consecutive adult patients (aged 18 years and over) whose stated chief complaints were "cold," "flu," "virus," etc. Nearly all patients or their spouses were employed full-time, since enrollment in Medical Care Group is obtained through a health benefit offered to employee groups as an option by employers. The patients included in the study otherwise represented a wide variety of socioeconomic groups.

The following patients were excluded: (1) those whose major complaint was sore throat, since streptococcal pharyngitis was a consideration in these patients, (2) those with a recent history of treatment for bacterial respiratory tract infection such as sinusitis or pneumonia, (3) those with chronic diseases, such as obstructive lung disease, congestive heart failure, or diabetes, who may have been told in the past to see a physician for any acute illness, and (4) patients who had been treated for viral URI during the preceding three

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months. After these exclusions, 100 patients remained whose diagnosis was uncomplicated viral URI.

Appropriate patients were identified by a nurse upon the patient's arrival so that the questionnaire could be completed before the encounter with the physician, physician's assistant, or nurse practitioner. Patients were told that the completed form would remain anonymous and would not be seen by the provider during the ensuing encounter. Thus the patients were assured that their answers would not affect the outcome of their visit.

During the several months preceding the study period, patients with URI were informally asked about their reasons for coming to the office. The most frequent responses were included as choices in the questionnaire. The possibility of forced choices was thereby minimized. The study period was December 1980 and early January 1981.

Results

About three fourths of the patients were under 40 years of age. This roughly reflects the age distribution of Medical Care Group adult members.

The most frequently stated reason for coming to see the physician (54 percent of respondents) was that "symptoms had lasted longer than expected." The second most popular response (42 percent) was the seeking of advice "to help make my symptoms go away." Intermediate in frequency were patients who wanted prescriptions (30 percent) and those who were worried that they "might have something more serious than cold or flu" (29 percent). Other responses were relatively uncommon. These percentages exceed 100 percent because respondents were allowed up to two choices.

Only 14 percent of patients requested specific medications, most of which were antibiotics.

Most patients thought that the upper respiratory tract infection either "might turn into something more serious" (38 percent) or "would probably last longer" (33 percent) if left untreated. Only 15 percent thought that the course of URI would not be altered by treatment, and 13 percent did not know.

Thirty-one percent of the patients believed penicillin to be helpful in URI, 32 percent did not believe it to be helpful, and 37 percent did not know.

The vast majority of patients definitely (63 percent) or probably (30 percent) would have sought medical attention under a fee-for-service situation.

Discussion

Upper respiratory tract infection is responsible for a substantial percentage of visits to primary care providers.^{2,3} For this reason alone, the behaviors and perceptions of patients with URI may be considered worthy of analysis. In addition, the insights gained thereby might possibly be extrapolated to the study of patients with other types of minor illness.

First of all, the two leading responses concerning why patients sought medical attention clearly indicate that patients with URI go to their physicians for symptomatic relief. However, the most popular response was that symptoms "lasted longer than expected." This answer implies that the patient's experience of his present illness deviates from the expected course. The patient's expectations have not been confirmed, and the resulting anxiety culminates in the visit to the physician.

It is also clear that a number of patients were worried that they might have a more serious illness. Again, the implication is that these individuals may have developed a certain level of anxiety, reflecting a perceived threat to health; the physician's reassurance that "it's just a cold" would be of importance in such a case. The authors observed that a number of these patients were worried about pneumonia (though some may not have understood what pneumonia is), whereas others were worried in a more nebulous sense. Undoubtedly, family and cultural factors underlie the threshold whereupon an illness becomes worrisome.⁴

Second, in regard to the patient's understanding of the natural history of URI, most individuals (71 percent) thought that URI could become more serious or last longer if left untreated. Thus patients regard URI as an event that is at least potentially quite consequential, and they endow the physician with significant power to manipulate URI and avert those consequences.

The patient's perception is quite understandable if it is contrasted with the physician's concept of URI. The physician formulates the disease in microbiological terms. Because therapeutic interventions do not materially affect the life of the virus in the organism, the physician views treatment as not significantly altering the process or outcome. The patient, however, perceives the illness in symptomatic terms. If an intervention (eg, antihistamine or decongestant therapy) attenuates

the symptoms to a large enough extent, the patient can claim the course to have been shortened or at least manipulated in a favorable way; it matters little to him whether the virus still dwells in his system. Furthermore, even if treatment is ineffectual, the patient may confuse the natural resolution of the illness with a beneficial drug effect. Thus his belief in the role of treatment is confirmed independently of any objective effect. Kleinman et al⁵ have analyzed this important distinction between the patient's experience of sickness (ie, illness) and the physician's formulation of the pathologic process (ie, disease). They emphasize that the outcome of a clinical encounter depends critically on the manner in which the illness/disease dichotomy is reconciled.

Third, in regard to the patient's expectations concerning the use of antibiotics and other medications, only a third of patients were certain that penicillin is of no benefit, and nearly a third of patients explicitly hoped to obtain some sort of prescription drug. It appears, then, that the myth of antibiotic efficacy in viral URI is still very much alive. There is some reason to suspect that this belief is being perpetuated by physicians themselves. A pediatric study recently showed that large numbers of general pediatricians and family physicians would dispense antibiotics in URI situations that do not require antibiotics as determined by infectious disease specialists.⁶

The authors have observed that primary care providers often cite the presence of purulent sputum to rationalize their use of antibiotics in URI. Other authors have also suggested that purulent sputum influences the physician's decision to use antibiotics.⁷ Stott and West⁸ conducted a randomized placebo-control study to assess the ability of antibiotics to clear purulent sputum in patients with URI.⁸ There was absolutely no difference between placebo- and antibiotic-treated groups in the time required for sputum production to subside.

Thus, a vicious circle has been created. Patients continue to demand antibiotics, physicians continue to prescribe them, and patient expectations are thereby reinforced.

Finally, the figures in this study would seem to indicate that the prepaid structure of this group did not affect the patient's decision to seek care for URI. However, these results are difficult to interpret. Patients may have felt the need to legitimize

their visit once they had taken the step of coming to the physician. Interestingly, a controlled prospective study compared patients in this practice with a similar fee-for-service group in the utilization of ambulatory services.⁹ Prepaid adult patients had 63 percent more outpatient visits for diagnostic and therapeutic services. Unfortunately, these visits were not broken down by diagnosis, so that figure cannot be extrapolated to patients with URI.

The results of this survey are potentially useful in several ways. For example, they indicate broad areas toward which patient education efforts could be directed. Most patients still require instruction regarding the lack of efficacy of antibiotics in viral URI, although it is clear that physicians themselves have fostered misunderstanding in this area. Also, many patients need to learn that the typical URI rarely promotes serious sequelae; these individuals primarily may be seeking reassurance from the provider of health care.

Furthermore, the results suggest that physicians and patients conceptualize illness in different ways. Patient behavior is colored by many determinants that are not always "rational" in a purely scientific sense.¹⁰ Physicians should attempt to understand these influences on behavior in order to improve the level of communication with their patients.

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