Do Prescriptions Adversely Affect Doctor-Patient Interactions?

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Abstract: The purpose of this study was to assess the impact of the prescription on the doctor-patient interaction. Data were collected during ongoing quality assessment studies at a prepaid group practice of about 19,000 enrollees. Adult patients and their providers completed forms on all visits to the Department of Medicine and Urgent Care Center during a two-week period. A 50 per cent random sample of patients was interviewed by telephone one week after the index visit. Patients who did not receive prescriptions reported more satisfaction with the communicative aspects of their visits to physicians than patients who did receive prescriptions. We suggest that prescriptions may hinder patient satisfaction with the doctor-patient interaction by substituting for other, more "meaningful" communication between patient and provider. (Am J Public Health 1981;71:1358–1361.)

Introduction

Tradition seems to suggest that an active intervention in illness—such as the prescription—is the proper goal of the office visit. One aim of doctor-patient interaction, in this view, is to verbally assess symptoms and help in the diagnostic process, with the appropriate prescription as the outcome. It is important to test this view because it has disposed many physicians toward prescribing even in situations where prescriptions are not clearly indicated by symptoms or diagnosis. As Friedson[1] and Scheff[2] have observed, the prescription often results from the assumption that it is a concrete, definable action that should be the natural outcome of the medical care visit.

Several recent studies dispute this assumption. Woolley reports that overall patient satisfaction with the medical visit can be predicted by quality of patient-provider communication, regardless of whether a prescription is given.[3] Bertakis finds that patients are most satisfied when physicians give them detailed information about their illnesses.[4] Both studies suggest patients may be looking for something other than prescriptions. They further imply that doctor-patient interaction (communication) may have a more important role in producing a satisfied patient than previously thought.

Our research examines the relationship between certain satisfaction variables and the receiving of prescriptions among patients in a prepaid practice. The variables measure level of interaction between patient and physician and the patient's satisfaction with this interaction, as well as satisfaction with the overall visit. The results are then studied to determine if patients receiving prescriptions report as satisfactory communicative interaction with the doctor as those who do not.

Methods

The study was conducted at a prepaid medical plan serving 18,875 people in a mid-Atlantic metropolitan area. The study population included all patients seen in the Departments of Adult Medicine and Urgent Care during a two-week period. These two departments were chosen because they provide a balance of chronic and acute illnesses.

The plan's members during the study period were relatively young (40 per cent in the 25–44 age group; 25 per cent between ages 5 and 15); and were nearly equally divided between male and female. The age, sex, and diagnostic distribution of the study group did not differ significantly from patterns reported for the calendar year. Seventy-six per cent of the plan's members used services during the year; females were higher utilizers than males. Over 60 per cent of visits during the year lasted 10–15 minutes, with no significant patient sex difference in visit duration.

Three instruments were used to collect data at the time of the visit: an encounter form, a visit questionnaire, and a provider form. One week after the visit, a follow-up, random sample telephone survey contacted 50 per cent of patients seen. Table 1 lists the information obtained from these four instruments. Where medications were prescribed, the records were reviewed and up to four drugs were recorded with their dosage schedules.

TABLE 1—Data Collection Instruments

Instrument	Information Obtained
Encounter Form	Up to three of the patient's problems; duration and purpose of visit; special procedures done; disposition.
Visit Questionnaire	Principal reason for the visit; visit for a new or old problem; visit initiated by provider or patient; degree of discomfort or pain, anxiety, and activity limitation caused by present problem.
Provider Form	Was patient placed on medication?; was follow-up visit requested?; estimate of degree of patient's level of discomfort or pain, anxiety, and activity limitation caused by the presenting problem.
Follow-up Telephone Survey	Was problem better, worse, same or resolved?; degree of satisfaction with quality of the patient-provider interaction during the visit (several items); medication-taking behavior of patient if given prescription (several items).

Data were analyzed using cross-tabulation, correlation analysis, and multiple discriminant analysis. The latter measure shows how closely changes in one variable are related to changes in one or more others, and how closely membership in a particular group, i.e., patients receiving or not receiving prescriptions, relates to the other variables studied. The statistic used for judging the importance of a discriminant function is its associated canonical correlation. In addition, a standardized canonical discriminant coefficient represents the relative contribution of the associated variables to that discriminant function.[5-6]

Results

The study sample included a total of 1,367 patient visits (Table 2). Encounter forms were collected for all visits to both departments. Visit questionnaires and telephone follow-ups showed no significant difference in retrieval rate from the two departments. Provider forms were obtained for 87 per cent of visits to Adult Medicine. In Urgent Care, where 50 per cent of providers were asked to complete the

forms, there was a 74 per cent response. Thus, the combined department return on provider forms was 83 per cent.

Issuing of prescriptions during the study period was consistent with patterns previously reported for this plan.[7] Nearly 40 per cent of all visits resulted in one or more prescriptions. As might be expected, because of its large proportion of acute medical problems, visits to the Urgent Care Center had a higher likelihood of getting a new prescription than visits to Adult Medicine (Table 3). Renewals accounted for only a small proportion of prescriptions.

Nearly half of the patients studied reported they were "very satisfied" with a variety of aspects of the visit. These variables were satisfaction with: the way their questions were answered and understood; the interest shown them by their providers; and the explanations they received concerning their problems. The three satisfaction measures were highly intercorrelated, with the variable "satisfaction with questions answered" achieving the highest intercorrelation score (Table 4). In addition, patients in Adult Medicine reported higher levels of satisfaction in all categories than those seen in Urgent Care. These differences were not statistically significant and may reflect the tendency for

TABLE 2—Response Rates and Samples Sizes According to Source of Data

Source	Sampling Frame	% Response Rate			No. in Sample Size		
		Adult Medicine	Urgent Care	Total	Adult Medicine	Urgent Care	Total
Encounter Form	All visits	100	100	100	785	582	1,376
Visit Questionnaire	All visits	76	76	77	595	454	1,049
Provider Forms	All visits to Adult Medicine; 50% sample of Urgent Care visits	87	74	83	683	214	897
Telephone Follow-up	50% sample of all visits	76	75	75	297	218	515

TABLE 3—Drug Prescribing According to Type of Prescription*

Type of Prescription	Adult Medicine (N = 590) %	Urgent Care (N = 383) %	Total (N = 973) %
None	49.3	29.8	43.3
New prescription	27.2	66.0	39.5
Renewal	16.6	0.6	11.6
Nonprescription drug	6.7	3.8	5.7

* Columns may not total 100% due to rounding procedures.

visits to Urgent Care to be more acute, episodic and to be with providers the patients have not seen before. In general patients were less satisfied with the explanations of their problems, and most satisfied with interest shown them.

Using satisfaction with questions answered as an index variable, a detailed correlation analysis was undertaken to discover other significant correlates of patient-provider satisfaction. Age, sex, initial visit for the problem, having seen the provider before, department (Adult Medicine or Urgent Care), and class of medication were not significantly related. However, patients were significantly less likely to report being "very satisfied" if they received a prescription.

Patient-provider interaction was studied to determine just how pervasively receiving a prescription was related to the communication that occurred during the visit. The results show three areas of correlation. First, patients receiving prescriptions had shorter visits (less than 15 minutes) than those who did not ($.16$, $p < .001$). Secondly, patients reporting less satisfaction with three communicative aspects of the visit received more prescriptions. These communications variables included satisfaction with: questions answered ($-.18$, $p < .001$), interest shown ($-.17$, $p < .001$), and explanations given ($-.15$, $p < .003$). Finally, patients who characterized their provider as "businesslike or other" as opposed to "friendly" received more prescriptions ($-.13$, $p < .004$). All these indexes—friendliness of provider, questions answered and explanations given, duration of visit—measure the communicative relationship, or lack of it, between the patient and provider. A multi-variate analysis confirms that receiving a prescription is significantly related to less satisfactory levels of communicative interaction between patient and doctor (Table 5).

In addition to receiving a prescription, other variables were found to correlate with patients reporting unsatisfactory communication. Patients with high anxiety levels, patients who had a respiratory disease, and those having providers who underestimated their degree of anxiety tended to be dissatisfied with communication during the visit. On the other hand, patients having a routine examination tended to be satisfied. In the discriminant analysis which yielded these results, "satisfaction with questions answered" was used as the index variable.

The above analyses proved significant even after diagnostic categories were considered. The leading category of medication prescribed was antibiotics (19.3 per cent of all prescriptions given), followed by antihistamines (15.1 per cent) and cardiovascular preparations (12 per cent). (Antibiotic prescribing was prevalent because disease of the respiratory system was the leading diagnostic category among the study group.) Of disease-related variables, having a respiratory condition was the only variable significantly correlated with receiving a new prescription ($.28$, $p < .001$), and patients with respiratory diseases, as reported above, were typically unsatisfied with patient-provider communication. Such diagnostic categories as circulatory, musculoskeletal, genitourinary, and head, eyes, and ears proved insignificantly related to getting a new prescription. Whether the problem was classified as acute, chronic, or an injury also had no significant correlation with receiving a new prescription.

Discussion

This research addressed the question, "Do patients who are satisfied with doctor-patient communication receive as many prescriptions as those who are not satisfied?" The findings show that when prescriptions are given, the doctor-patient interaction, as reported by the patient, is less satisfying. Conversely, when the interaction is more satisfying, prescriptions tend not to be given. As some literature already suggests, patients may not be as prescription-oriented as many physicians believe.[8-9] The physician who gives verbal attention to the patient's problem by taking time to understand and answer questions, give explanations, and show a friendly interest in the patient has a satisfying effect, and may have a psychologically therapeutic effect, on that patient.[10] Prescriptions, on the other hand, sometimes may

TABLE 4—Distribution of Responses to Visit Satisfaction Questions According to Setting

Satisfaction Questions	Department of Urgent Care (N = 145)		Department of Adult Medicine (N = 201)		Both Settings (N = 346)	
	% Very Satisfied	% Other	% Very Satisfied	% Other	% Very Satisfied	% Other
Questions Unanswered	39.2	61.8	50.0	50.0	45.8	54.2
Questions Answered	36.9	63.1	46.5	53.5	42.7	57.3
Interest Shown	40.6	59.4	59.7	40.3	52.2	47.8
Problems Explained	27.0	73.0	35.3	64.7	31.8	68.2

TABLE 5—Discriminant Analysis: Variables Related to Reported Satisfaction*

Variable	Standardized Canonical Discriminant Function Coefficient
Degree of anxiety at time of visit	−.49
Respiratory disease	−.49
Receiving a prescription	−.41
Routine examination	.35
Provider underestimation of patient's reported degree of anxiety	−.26

Overall Canonical Correlation .36 (p < .001).
* Using satisfaction with questions answered as the index variable.

be used as a poor substitute for "meaningful" interaction during the visit and serve as a kind of "short-cut" in the medical care process. The availability of the prescription as an easy replacement for more time-consuming interaction between doctor and patient might serve to make it an adverse element in the medical care process, one which offers too simple an alternative to the more satisfying understanding that should occur between patient and physician.

The findings also suggest that patients with anxiety may have a different set of expectations for the visit than have less anxious patients. They may be looking for (in need of) a certain type of interaction, one in which a prescription is not an essential outcome, but communication is essential. Their demand for communication remains unsatisfied. Related to this finding is that of provider underestimation of anxiety. Providers who are unaware of patients' anxiety levels probably have not achieved effective communication. For this reason, they do not realize what patients' underlying feelings are. Patients may sense this lack of communication (and lack of empathy) and report less satisfaction. The connection of respiratory disease to patient-provider interaction is more difficult to interpret. Most such diseases (colds, sore throats, and coughs) are benign, self-limited, and common. Providers may view patients with such problems as "routine" and "uninteresting." Perhaps their attitude is communicated indirectly to the patient, who then reports less satisfaction with communicative aspects of the visit.

The research revealed a number of areas that merit further investigation. For example, the influence of the provider's personality on visit length may be explored, as well as related to his/her prescription writing practices.[11] In addition, more study of the interplay between patient expectations and satisfaction, and between provider's impression of the interaction and subsequent prescribing should be done.

The study group used for this research was limited to a relatively homogeneous group of middle-aged and economically secure adults belonging to a particular prepaid group practice. Studies need to be done among more diverse populations and more varied practice modes before results can be generalized. Finally, ways of refining measures of satisfaction need to be found, since they are usually broad, vague, and difficult to treat statistically.[12]

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