

Have You Been Taking Your Pills?

The Adherence-Monitoring Sequence in the Medical Interview

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This paper employs qualitative, sociolinguistic techniques to identify and describe the kinds of conversational strategies that primary care physicians use to assess patient adherence to antihypertensive regimens. Three general approaches are described: indirect inquiry, simple direct questions, and information-intensive inquiry. The strengths and weaknesses inherent in these discourse categories are discussed. Qualitative assessment, coupled with the results of a pilot study investigating the effectiveness of naturally occurring instances of these three general styles, leads to the conclusion that how one asks "Have you been taking your medications?" is consequential for the accurate diagnosis and management of adherence problems. J FAM PRACT 1990; 30:294-299

Nonadherence is a major impediment to the achievement of therapeutic goals and a source of frustration for the clinician. It is estimated that 20% to 80% of all patients fail to follow treatment recommendations.¹ The default rate at any given time among patients with chronic illnesses, such as hypertension, diabetes, and arthritis, can be 50% or even higher.^{2,3} Adherence problems are not always easy to detect, however. A number of studies have shown that clinicians cannot reliably predict the adherence status of their patients.⁴ This finding is not at all surprising, given that research has shown "there are no readily observable characteristics of patients with poor compliance that may permit their easy identification."⁵ Consequently, health care professionals must often resort to intuition and subjective clinical judgments in their attempts to assess patient adherence. Little is known, however, about how these determinations are routinely made.

Clearly, clinicians rely on their patients' self-reported implementation of treatment recommendations. While self-report data are often suspect, a number of investigations have demonstrated that interview-based assessment procedures perform well when compared with estimates

based on objective but more expensive and less practical methods such as random pill counts, biochemical assays, and high-technology dispensing devices.⁶⁻⁹ These findings prompted the authors of one recent and comprehensive review to challenge researchers to identify the conditions influencing the quality and veracity of self-reported adherence.¹⁰

This paper employs qualitative sociolinguistic methods¹¹ to describe the characteristics of different conversational approaches to adherence monitoring. The goal is to sensitize physicians to the strengths and weaknesses inherent in the varying ways they can ask the question, "Have you been taking your medicine?" The physician needs to know whether, when, and how the patient is implementing prior recommendations and whether the patient has experienced difficulties or side effects attributable to those recommendations. Common adherence-monitoring questions often fail to elicit this range of information. The issue is not simply whether the clinician asks about adherence, but how.

Observations described here are based on an analysis of adherence monitoring in 75 tape-recorded encounters between hypertensive patients and their health care providers in the primary care clinic of an inner-city university-affiliated teaching hospital. The hypertensive patient population served by this clinic at the time of data collection was predominantly black, female, and middle-aged or older. Continuity care for study patients was provided by general internal medicine residents (n = 8) and nurse

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practitioners ($n = 5$) working under the supervision of faculty physicians. The study encounters were drawn from a larger corpus of approximately 400 tape-recorded clinic visits by 125 hypertensive patients. These tapes were collected as part of a longitudinal investigation of the illness beliefs and behaviors of hypertensive patients.¹² The intent of that study was not to investigate adherence-monitoring practices; however, as tapes were reviewed for the original study, it became apparent that there was considerable variability in conversational efforts to assess patients' adherence status. It was decided, therefore, to take advantage of this data set to investigate systematically this routine clinical activity.

The goal of this paper is to describe the characteristics of a language-based clinical activity and to draw theoretical generalizations about that activity. To accomplish this task, an inductive, multiple case study approach¹³ and what is known in qualitative research as the constant comparative method were employed.¹⁴ It is important to note that no effort is made in this paper to offer generalizations about either the clinicians who engage in adherence-monitoring activities or about a particular category of patients. The focus is on understanding the characteristics of adherence monitoring as such. Questions about what prompts a clinician to adopt one approach over another are beyond the scope of this investigation.

METHODS

This study was conducted in two stages. The first involved the creation of empirically derived categories for classifying adherence-monitoring practices. In the second stage this category system was used as a tool for systematically investigating adherence monitoring in a purposive critical case¹⁵ sample of 75 encounters involving patients for whom there was independent knowledge of adherence status prior to the recorded treatment visit.

A system for classifying adherence monitoring in medical encounters was generated by randomly selecting, transcribing, and examining individual encounters sequentially from the 400-tape collection. Segments of the transcribed encounter dealing with adherence issues were first identified and then studied in detail. Identification was a relatively simple task because adherence monitoring is typically marked by some variant of the question "Have you been taking your pills?" Once identified, the segment was scrutinized to determine, for example, how the topic was introduced into the conversation, where it occurred, what form the questioning took, how the patient responded, and so on. After analyzing a given case, a new case was randomly selected, analyzed, and compared with those that preceded it in an effort to identify pat-

terned similarities and differences in the structure, organization, and content of adherence-monitoring practices. This process continued until a theoretical saturation point¹⁴ was reached in which additional cases neither added to an emerging understanding nor suggested the need to create new categories.

In all, 28 encounters were examined in the category-generating stage of this study. This process yielded a simple, threefold taxonomy of adherence-monitoring talk varying on the dimensions of directness (direct vs indirect inquiry modes) and information intensity, as defined by the amount and kind of information sought by the clinician.

In the second stage of this study a critical case sample¹⁵ was created to assess the utility of the taxonomic scheme and to test predictions based on that classificatory system. This sample consisted of 76 encounters drawn from the 400-tape research corpus. One half of these encounters involved patients who admitted in a preencounter research interview to having a problem with adherence in the month preceding the clinic visit. This information, which was not available to the clinician, was derived from the patient's responses to a series of questions about adherence embedded in an extensive structured interview instrument designed to elicit information on the health beliefs and behaviors of hypertensive patients.¹² This interview was conducted by a research assistant immediately before the clinic encounter. For the purposes of this study, an adherence problem was defined as 8 or more missed doses in the preceding month. In all, 38 patients met this self-report criteria.

To increase sample size and to form a comparison group, another 38 encounters were randomly selected from the pool of patients denying an adherence problem. One of these encounters was subsequently dropped from the study because ancillary medical record data were unavailable, thus reducing the sample from 76 to 75 encounters. The adherence-monitoring segments of these visits were identified and classified by the senior author, who was at this point blind to the self-reported adherence status of the patients whose encounters were being studied. Coding reliability was assessed on a 30% reliability sample and exceeded 90%. To assess coding replicability, the second author independently coded the 30% reliability sample. At 91.3%, intercoder agreement was also high.

ADHERENCE-MONITORING STYLES: CASE EXAMPLES

Indirect Approach

The first example illustrates an indirect approach to adherence monitoring. In this case, the clinician (C) is inter-

acting with a patient (P) who had been advised to take 50 mg of hydrochlorothiazide a day. After greeting the patient, the clinician initiated the following exchange:

Example 1

1. C: The last time I saw you was when we started you on your blood pressure medication.
2. P: Yeah. Uh huh.
3. C: Okay. Have you noticed any changes since you've started taking that medication?
4. P: Well, I go to the bathroom quite often.
5. C: All right. That's a fairly normal effect of the medication.
6. P: (Laughs) Uh huh.
7. C: It's a water pill, a diuretic, and it takes some of the extra fluid out of your body. (Topic shift)

This sequence is the only one in the encounter dealing with medication use. As an initial observation, note that the very way in which the clinician formulated the question (line 3) displays the presumption that the patient has indeed been taking the medication. Rather than asking whether the patient has been taking it, the clinician requests a report on changes noticed since starting the medication. The patient obliges by stating, "Well, I go to the bathroom quite often," which in turn prompts the clinician to offer an assessment indicating that this change is normal and to be expected. At this point the clinician measured the patient's blood pressure, reported it lower than on the previous visit, and congratulated the patient on her good work.

Is this clinician justified in concluding, as recorded in the chart, that the patient is taking her medications as directed? An examination of this sequence reveals little information has been elicited. All the clinician really has is circumstantial evidence in the form of a change consistent with the medication's known pharmacological properties and a blood pressure reading lower than in the recent past. It is not known when the patient actually began taking the medication (last week or last month?), how frequently (every day as prescribed or every other day?), or with what consistency (consistently or hit-or-miss?). Although the patient's blood pressure is lower, apparent therapeutic outcome is an imperfect indicator of adherence⁵; at a particular point in time a normal blood pressure reading may be affected by any number of factors. "Everything's looking good, so keep up the good work" is not the message to send to a nonadherent patient who just happens to be within normal limits at the time of the visit. Sound decision making requires the clinician to establish as completely as possible whether and how a patient is implementing treatment recommendations. Indirect approaches, such as the one illustrated above, do not pro-

vide the requisite level of information for making these judgments.

The Simple Direct Question Approach

The next two case examples illustrate more direct approaches to adherence monitoring:

Example 2

1. C: (After measuring the patient's blood pressure) . . . One-twenty over eighty-eight. That's really good.
2. P: (Laughs)
3. C: You've been taking your medications?
4. P: Oh yes, oh yes.
5. C: Okay. (Topic shift)

Example 3

1. C: All right. Now, how about in terms of the blood pressure. Any problems in the past month?
2. P: No. No. Uh uh.
3. C: Okay.
4. P: (Unintelligible) that's been good yet.
5. C: All right. You haven't run out of any or missed any?
6. P: No, I will be wanting some later this month. You know, like after the first of April.
7. C: Okay. (Topic shift)

In each of these excerpts the clinician employs a simple, direct question that can be answered with an equally simple yes-or-no response. Once again, the amount and quality of information exchanged needs critical examination.

In case 2, for example, what does the patient's "Oh yes, oh yes" (line 4) response to the question, "You've been taking your medication?" actually reveal about her medication-taking behavior? It is possible, despite an honest yes response to this simple, direct question, that the patient may, in fact, be implementing the regimen incorrectly or according to some idiosyncratic schedule. To complicate matters further, the clinician prefaced the question (line 1) with a report, "120 over 88" followed by an enthusiastic assessment, "that's really good." How easy would it be for a patient to admit to volitional non-adherence following such an enthusiastic introduction?

Turning now to example 3, once again the clinician's direct question (line 5) yields only limited information on the patient's adherence status. While one learns how long the patient estimates her medication supply will last (line 6), information is not provided that would enable the

clinician to assess the patient's knowledge of the regimen or how she is implementing it. What's more, the clinician lumps two related, but different, questions together in a single utterance: "You haven't run out of any or missed any?" The patient's answer is responsive only to the first of these questions, and the clinician accepts this answer as being sufficient for his purposes. In fact, immediately before this encounter, the patient admitted in a research interview to frequent misses in the preceding month. While this patient may have been deliberately concealing nonadherence, an examination of the monitoring sequence shows that she was given little opportunity or encouragement to provide information beyond the status of her current medication supply.

Information-Intensive Discourse Strategies

Potentially more productive modes of inquiry require information-intensive techniques. As a starting point, consider the following example:

Example 4

1. C: You still taking the Lasix?
2. P: Yup.
3. C: Once in the morning, forty milligrams. And the Inderal?
4. P: Right.
5. C: How much do you take of that?
6. P: Twice a day. Morning and evening (laughs).
7. C: Two tablets? Or is this a forty milligram tablet?
8. P: Right.
9. C: Okay. So it's just one tablet.
10. P: Right.
11. C: Okay. Okay. Good. (Topic shift)

In this case, the clinician directs the patient's responses and, in doing so, succeeds in addressing a number of pertinent issues including the identity of the specific medications in the regimen, their dosages, and schedule of administration. While the clinician does not explicitly ask about missed doses, more information has been exchanged in this sequence than in the others outlined above. The next example illustrates an open-ended variant of the information-intensive style.

Example 5:

1. C: What medications are you taking now?
2. P: Propranolol and hydrochlorothiazide.
3. C: Okay. And you're taking those how? How often do you take them?

4. P: I take the propranolol. I think it's eighty grams . . .
5. C: Umm hmm . . .
6. P: . . . in the morning. Eighty in the evening.
7. C: Umm hmm . . .
8. P: And the propran--the water pill, two in the morning.
9. C: Um . . .
10. P: I don't know the contents of those.
11. C: Okay. You're probably taking two fifty milligrams because you're taking a hundred all together.
12. P: Yeah, that could be, yeah.
13. C: Okay. Have you noticed any side effects from the medication at all?
14. P: Well I . . . as far as the . . . not really. Just I have to use the bathroom a little more, that's about it. Yeah.
15. C: From the hydrochlorothiazide. Yeah. Okay. You haven't noticed anything like nausea and vomiting? Headaches or any—
16. P: No.
17. C: —anything unusual from them? Good. (Topic shift)

In this encounter, the clinician initiated the inquiry in such a way as to give the patient an opportunity to display her knowledge of the regimen (line 1), and through specific probes (lines 3, 13, and 15) to report on its implementation and her experience with it. The potential advantage of an open-ended information request followed by specific probes is clearly evident in the next example.

Example 6:

1. C: Do you need refills of everything that you're on now, or no?
2. P: No, I don't need any refills on those three. And that gout, I think that's okay.
3. C: Okay.
4. P: I cut that out.
5. C: Yeah, you take the heart pill, the digoxin every day?
6. P: The heart pill and then the—what do you call it?
7. C: Dyazide? The water pill?
8. P: Yeah, the water pill and the other one. Those three.
9. P: And then I take one Dristan.
10. C: Okay. The dyazide . . .
11. P: (Unintelligible)
12. C: . . . you take how many of them a day?
13. P: Of what?
14. C: Dyazide. The water pill?

15. P: Uh, one in the morning and one in the evening.
16. C: Okay and . . .
17. P: And . . .
18. C: . . . the Aldomet? The blood pressure pill?
19. P: (Unintelligible) one in the evening and one in the morning.
20. C: You take three of them a day, though, don't you?
21. P: Two.
22. C: No, the blood pressure pill, the Aldomet, you were taking three a day. One in the morning, one at noon, and one in the evening.
23. P. (Pause) Oh, wait, I'd better check that, because I only take two a day.

By persisting in efforts to elicit not only what the patient was taking but how, the clinician in this case uncovered a problem (line 23) that may have otherwise gone undetected. It was then possible to provide a renewed set of instructions and to reinforce the importance of the regimen. While the adoption of an information-intensive style of adherence monitoring does not guarantee success in identifying problems, it does expand the patient's opportunity to display his or her knowledge, understanding, and experience. It also creates an interactive environment in which lapses or errors may become more readily apparent.

HOW EFFECTIVE ARE VARYING APPROACHES TO ADHERENCE MONITORING?

Having described a taxonomy or model of interview-based adherence-monitoring styles, and having suggested that there are logical, sociolinguistically determined strengths and weaknesses in these varying styles, it is appropriate to ask whether monitoring style is indeed consequential for the identification of adherence problems? To answer this question, the critical case sample of 38 encounters involving patients admitting to nonadherence in the preencounter research interview, and an equal number of cases involving patients denying a problem in that interview, were reviewed to determine whether there was variability in adherence-monitoring styles in this sample of encounters. The next issue addressed was whether there was a relationship between monitoring style and identification of a problem.

Conversations dealing with adherence were evident in 93% of the 75 study encounters. Interestingly, patients themselves initiated monitoring by volunteering their adherence status without being asked in 9 (12%) instances. Clinicians employed indirect approaches in 14 (19%) en-

counters. The simple direct question and information-intensive techniques were each evident in about one third of the study encounters (24 and 25 cases, respectively). Thus, there is indeed variability in the manner in which adherence monitoring is pursued in this sample of encounters.

For the 38 encounters involving patients who admitted to adherence problems, both the encounter and the medical record were examined to see whether the problem came to light during the visit or whether the clinician suspected a problem and made a note to that effect in the chart. The clinicians' findings were thus compared with those of the researchers. This comparison yielded the following results: The clinicians in this study detected only 53% (20/38) of the adherence problems identified by the researchers before the clinic visit. In five cases (13%), the patient volunteered the existence of the problem before being asked about it by the clinician. In 10 encounters clinicians employed information-intensive strategies and successfully identified the existence of a problem in eight of these cases. The simple, direct question approach, adopted by clinicians in 13 encounters, was somewhat less effective in that it succeeded in identifying the existence of only 63% (8/13) of the adherence problems. The indirect approach was singularly ineffective; the existing adherence problem went undetected in each of the nine encounters in which it was employed.

What about false-positive cases in the encounters involving patients considered adherent by the researchers? There were five instances in which the clinicians labeled as nonadherent those who were included by the researchers in the adherent group. In three of these cases, the clinician employed more stringent criteria for defining adherence problems than had been used for the purpose of this study. In the two remaining cases, the research interview failed to correctly identify a problem. In one instance this failure could be traced to the patient's misunderstanding of the regimen, a misunderstanding picked up by the clinician through information-intensive adherence monitoring. In the remaining instance the patient admitted on direct questioning to modifying the regimen because of perceived medication side effects.

Although these findings are far from definitive, they are nonetheless highly suggestive and validate impressions derived from the qualitative appraisal of the inherent strengths and weaknesses of varying interview-based approaches to adherence monitoring.

CONCLUSIONS

An examination of adherence monitoring in a series of hypertension treatment encounters suggests that the mar-

ner in which adherence is monitored is consequential for the accurate identification and subsequent management of adherence problems. The commonsense observation that "it's not only what you say but how you say it that counts" is as true in the context of the medical encounter as it is in any other arena of social life. Just as Beckman and Frankel¹¹ found that clinicians can inadvertently inhibit patients' presentations of concerns, so too can clinicians unwittingly preclude the full and accurate disclosure of adherence problems. While some patients may actively conceal nonadherence, most will share their understanding and experience if given an adequate opportunity to do so. The goal of the primary care clinician should be to create an interactive environment in which the patient is given an opportunity to display knowledge of the regimen, report how this knowledge is being routinely implemented, and share concerns or reservations about the treatment program. Physicians should avoid basing the intensity or thoroughness of their adherence-monitoring efforts on intuition or presumption. Regardless of the patient's clinical status at the time of the visit, the simplicity or complexity of the regimen, or the patient's apparent level of motivation, the clinician should actively work to rule out adherence problems. A nonaccusatory, open-ended, information-intensive approach can be a sensitive and productive tool for the diagnosis of a patient's adherence status.

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