

Characteristics of the Initial Medical Interview Associated with Patient Satisfaction and Understanding

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This study examines the relationship between selected interview characteristics, particularly physicians' verbal behaviors, and levels of patient satisfaction and understanding. Twenty-nine initial patient interviews by 11 physicians at the University of Washington Hospital Family Medical Center were videotaped and rated using a modified Bales' technique. Questionnaires provided measures of patient satisfaction and understanding. Results of correlational analysis indicate that higher patient satisfaction was associated with greater interview length, increases in the proportional time spent by the physician in presenting information and discussing prevention, and shorter chart review times. Increased patient understanding was associated with increases in the proportional time spent presenting both information and opinions, close physical proximity, and reduced chart review time. Implications of the results are discussed as well as methodological issues relating to further research.

There is almost universal agreement about the importance of effective interviewing skills for medical practitioners, since the medical interview provides the primary means for gathering information from the patient to permit effective diagnosis and treatment. As a result, most medical schools now routinely provide interview training early in their curricula to facilitate the comprehensive and efficient acquisition of patient information. Much less is known about the relationship

between specific interviewing skills and such outcome measures as patient understanding, satisfaction, and compliance. A recent plea has been made for more research into physicians' interpersonal skills and patient satisfaction outcomes.¹ The difficulties in conducting and reporting research on interviewing are well known, including the imprecise methodologies and lack of clear criteria for effective interpersonal relations in the medical context. The purpose of this limited study is to examine some of the relationships between interview characteristics, especially physician verbal behaviors, and levels of patient satisfaction and understanding in the initial medical interview.

Patient understanding and retention of the physician's instructions are clearly important as necessary first conditions for patient compliance. Patient satisfaction, probably defensible as a

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worthwhile goal in its own right, is also important because of its reported relationship to patient compliance. Several studies have demonstrated better compliance among patients with higher satisfaction and better understanding of their treatment and care.²⁻⁶ Satisfaction with care and satisfaction with outcome have been differentiated in the literature. The former refers to the process of medical intervention and the latter deals with the results of the intervention.⁷ Since this study focuses on the effects of only those immediate aspects of the interview which are controllable by the physician, only the former type of satisfaction is of interest.

The literature on physician-patient relationships is also relevant, since many studies use patient satisfaction as a measure of the quality of such relationships. Several of these studies indicate that the types of relationships established between patients and physicians are significantly related to patient compliance with therapeutic instruction.⁸⁻¹³

Various investigators have used the Bales Interaction Process Technique¹⁴ to examine the relationship between interview characteristics and various outcome measures. Davis³ studied physician-patient interaction in a general medical clinic and concluded that patient non-compliance was associated with tension in the relationship, lack of feedback to the patient, and the pairing of authoritative patients with passive physicians. These relationships were observed at the second patient encounter but not the first. Freemon et al¹⁵ found that dissatisfaction and non-compliance among parents of pediatric patients were associated with lack of warmth and friendliness on the part of physicians, failure to take into account the patient's concerns and expectations, lack of clear-cut explanations concerning diagnoses and causation of illness, and use of medical jargon. These studies provide support for the existence of relationships between communication variables and patient outcomes, but the precise nature of such relationships requires further clarification.

The present study provides a slightly different emphasis. Since the length, pace, style, and subject areas in the medical interview are largely under the control of the physician, it can be argued that it is the physician's behaviors which most profoundly influence the patient's satisfaction and understanding and, ultimately, compliance. Thus, it is these variables which are examined in the cur-

rent study. Compliance was not directly investigated since this would have required a longitudinal follow-up design which was not feasible in this situation.

Methodology

The study was conducted at the Family Medical Center at the University of Washington Health Sciences Center. Eleven physicians participated: seven residents and four faculty members in the Family Practice Residency Program. The 29 patients who took part in this study were selected because they were meeting the physician for the first time and in most cases were making their initial visit to the clinic. The data were collected over an eight-week period.

Patients chosen for this study were approached by the researcher upon arrival at the clinic, at which time the study was explained in general terms and written consent obtained. The study was presented in a neutral manner with no mention of satisfaction or understanding. The consent form requested that patients aid "in completing a study of selected patients of the Family Medical Center to discover how people seek help for health related problems." By taking consecutive un-screened patients and presenting the study in a nonspecific manner, certain of the sources of invalidity associated with patient bias in the clinical setting were minimized.

The patient was then placed in an examination room equipped with a video camera and microphone. The entire interview (but not the examination) was observed and taped by the researcher in a separate video room. Normal clinic procedures were followed, including an initial interview in which a patient history was obtained, then a physical examination followed by a shorter interview in which the physician's instructions were given.

After the physician left the room, the researcher asked the post-interview questions which provided the basis for the measures of patient satisfaction and understanding. Patients were asked six questions dealing with immediate understanding and recollection of what the physician had told them and seven questions dealing with their satisfaction with various aspects of their interaction. The patient's report of the physician's instructions was compared to the actual instructions as recorded on the videotape of the interview. Patients were then assigned an *understanding* and a *satis-*

faction score, each on a five-point scale, based on their responses.

Physician instructions varied somewhat in length and complexity depending on the nature of the patient's problem. However, a review of these instructions indicated that they could be considered equivalent in terms of their effect on patient comprehension.

Ten of the interviews were conducted by first year residents, 6 by second year residents, 6 by third year residents, and 7 by faculty members. Over 90 percent of the 32 residents and faculty practicing in the clinic agreed to participate in the study, and all of the solicited patients granted their approval. The selection of interviews for inclusion in the study was based on the availability of patients meeting the described criteria and by the researchers' schedules. It is felt that this sampling method, while not statistically random, resulted in no systematic bias in the selection of patients or physicians.

Of the 29 patients, 20 were women and 9 were men. Ages ranged from 18 to 72 years. Twenty-two of the encounters were for routine or episodic problems, and the remaining seven were for previously diagnosed conditions. Owing to the relatively small sample size, no attempt was made to analyze the data by patient characteristics or diagnostic categories.

Data on the physician's verbal behavior during the interviews were recorded on a rating sheet at 15-second intervals from the videotape. An adaptation of the techniques developed by Bales¹⁴ for analyzing the content of verbal interactions was employed. The Bales technique was originally designed to study small group interactional patterns in order to investigate such phenomena as leadership, role differences, and changes in communication patterns over time in various task oriented group situations. The general approach is particularly attractive for examining the verbal behaviors which occur in the medical interview. Because of the specialized nature of the physician-patient interaction, only 6 of Bales' 12 categories were selected for monitoring along with two others of special relevance to this situation. The eight major categories of physician verbal behavior which were recorded are indicated in Table 1. A number of component verbal subcategories were also measured. However, these were found to occur so infrequently that analysis of this data would have

been unproductive.

Because the interviews were recorded on tape, it was possible to record a number of subsidiary variables through repeated viewings. Thus, a number of nonverbal and content variables from each interview were recorded as well. A total of 37 variables per interview comprising approximately 4,000 discrete observations in all were recorded.

All ratings were made by a single observer after several practice sessions, thus avoiding problems of rater differences.

Results and Discussion

Since the 11 physicians who participated in the study varied widely in their levels of training and experience, it was necessary to investigate the effects of the physician variable on the results. Patient understanding and satisfaction scores were averaged for each physician, and a chi-square analysis indicated no differences among physicians on these variables. Although clearly the personality and background characteristics of the physician have an effect on patient satisfaction and understanding, these results indicate that the differences found in the dependent variables in this study cannot be attributed to physician differences.

The length of the interviews included in the study varied from 9 minutes to 58 minutes. Since the raw frequencies of the observed behaviors would be highly dependent on interview length, it was necessary to calculate rates per unit time for purposes of comparative analysis. For each variable the amount of time spent engaged in that behavior as a percentage of the total physician communication time was determined for each interview. Average raw and adjusted rates along with standard deviations are presented in Table 1. As might be expected, the majority of the physicians' verbalization time was spent in acquiring information from patients and providing information and instructions. The relatively large standard deviations for most of the other verbal categories indicate the large individual differences among the physicians in their use of these behaviors. The table also includes average patient satisfaction and understanding scores, both very high for this patient group.

Pearson correlation co-efficients were calculated between the adjusted rates for the independent variables and the satisfaction and understand-

Table 1. Means, Standard Deviations, and Percentages for Selected Interview Characteristics in the Initial Medical Interview
n=29

| | Mean Time in Minutes | Standard Deviation | Percentage of Physician Verbal Activity |
|--|-------------------------|-----------------------|--|
| Physician Verbal Behaviors | | | |
| Casual Conversation | .90 | 1.13 | 4 |
| Providing Reassurance | .54 | .55 | 3 |
| Showing Agreement | .83 | .73 | 4 |
| Giving Suggestions | 3.52 | 1.80 | 16 |
| Giving Opinions | 1.21 | .98 | 6 |
| Giving Information | 7.55 | 5.15 | 35 |
| Asking for Information | 6.48 | 2.41 | 30 |
| Asking for Opinions | .34 | .59 | 2 |
| Other Interview Variables | | | |
| Length of Interview | 34.07 | 13.07 | — |
| Physician Verbal Activity | 21.37 | 8.59 | 100 |
| Time Spent Within 3 Feet of Patient | 18.72 | 8.83 | 88 |
| Time Spent Discussing Prevention | 2.42 | 4.20 | 11 |
| Time Spent Reading Patient's Chart | .55 | .62 | 3 |
| | | Standard | |
| Criterion Variables | | Mean | Deviation |
| Patient Satisfaction | 4.03 | .91 | |
| Patient Understanding | 4.34 | .90 | |

ing scores. Co-efficients along with significance levels for the major verbal categories and selected other variables are reported in Table 2.

It can be seen that most of the major verbal categories fail to show a significant relationship with either patient satisfaction or understanding. Not surprisingly, patient understanding was significantly associated with the amount of time spent providing information and medical opinions by the physician. This implies that physicians who take the time to provide complete information and repeat their instructions more than once achieve higher levels of comprehension and retention among their patients. Higher levels of information-giving from the physician were also related to higher patient satisfaction, suggesting that patients expect to receive information about their problems and answers to their questions and are unlikely to be satisfied with their treatment if such information is not forthcoming.

Among the nonverbal variables which were examined, it was found that greater interview length was associated with increased patient satis-

faction, possibly because a longer interview provides a greater opportunity to establish rapport and provide answers to the patient's questions. Patient understanding was inversely related to the physical distance from the physician, indicating that patients may find it more difficult to attend to the physician's communications when they are widely separated. Both of these last two findings must be interpreted with caution. Clearly other variables, particularly the length of the appointment and the nature of the patient's complaint, influence the length of the physician's interview. Common sense would indicate that arbitrary increases in either interview length or physical proximity may often have negative repercussions: quality and judgment almost certainly outweigh simple quantitative considerations. The reported findings merely suggest that, on the average, greater interview length and increased proximity were associated with favorable outcomes.

Patient satisfaction was found to be positively related to the amount of time spent in discussion of preventive care by the physician, suggesting that

Table 2. Correlations Between Selected Interview Characteristics and Patient Satisfaction and Understanding in the Initial Medical Interview
n=29

| | Satisfaction | Understanding |
|-------------------------------------|--------------|---------------|
| Physician Verbal Behavior | | |
| Casual Conversation | -.108 | .085 |
| Providing Reassurance | -.163 | .190 |
| Showing Agreement | -.159 | .254 |
| Giving Suggestions | -.022 | -.128 |
| Giving Opinions | .025 | .343* |
| Giving Information | .476** | .348* |
| Asking for Information | -.261 | -.211 |
| Asking for Opinions | .187 | .123 |
| Other Interview Variables | | |
| Length of Interview | .579† | .223 |
| Time Spent Within 3 Feet of Patient | .195 | .338* |
| Time Spent Discussing Prevention | .528** | .251 |
| Time Spent Reading Patient's Chart | -.688† | -.341* |
| *Significant at .05 level | | |
| **Significant at .005 level | | |
| †Significant at .001 level | | |

patients appreciate such expressions of concern about their future health needs by their providers. Finally, increased time spent in patient chart review was associated with decreases in both patient satisfaction and understanding. Although a certain minimum level of reading is necessary and unavoidable, this finding suggests that excessive time spent reading is viewed unfavorably by the patient, possibly because of its interference with eye contact and communication.

A number of other variables were investigated but are not presented since the infrequency of their occurrence makes any findings suspect. A few of these other variables merit mention because they may suggest fruitful lines for future research. For example, the negative correlation between physician suggestions and patient satisfaction was somewhat surprising since presumably patients would welcome suggestions from the physician to relieve their presenting problem. In examining the components of this category, it was found that simple physician suggestions were, in fact, strongly related to patient satisfaction. However, this was outweighed by the negative effect of physician instructions delivered in an authoritarian, dogmatic manner. These two methods of providing suggestions effectively offset each other in the summary figure presented in the table.

The lack of association between physician reassurance and patient satisfaction was also un-

expected, since it might be expected that many patients would appreciate confident, optimistic statements from the physician. One possible explanation for this finding is that premature, superficial expressions of reassurance may be viewed as patronizing or insincere by the patient unless they are accompanied by relevant information and specific suggestions for treatment. Further study would be helpful in this area.

Conclusions

Results of this limited study indicate that a number of interview characteristics which are under the control of the physician may have a significant influence on patient understanding and satisfaction during the initial interview. Of the variables investigated, the most significant influences on patient satisfaction appeared to arise from the amount of information provided by the physician, the length of the interview, time spent in discussing prevention, and the amount of chart review. Increased patient understanding was associated with increases in the provision of information and opinions by the physician, close physical proximity, and reduced chart review time.

The Bales methodology has proven extremely promising as a means to examine the medical interview in detail and identify those aspects of the

interview which are most influential in achieving the physician's objectives. The use of videotapes eliminates time pressure and permits data recording to be repeated and verified as often as desired. The method is extremely flexible, since any set of interview variables can be selected for observation depending on the investigator's interest.

In reviewing the design and results of this study, a number of correctable deficiencies and suggestions for additional research have been identified.

For example, the use of more than one rater/observer is probably warranted in order to increase confidence in the reproducibility and validity of the measures. Adequate training for the raters would be necessary to ensure inter-rater reliability.

A larger sample of patients would be desirable since certain behavioral categories such as empathetic statements occurred so infrequently in this study that they could not be analyzed. A larger population would also permit patients to be categorized according to type of problem, for example, chronic vs episodic, to investigate the extent to which interviewing techniques vary in their effectiveness depending on the nature of the condition.

A better method of assessing patient satisfaction is needed. Experience in this and other studies indicates that patient satisfaction tends to be very high at this clinic. This presents problems of restricted range in the measurement of satisfaction. A relative measure relating satisfaction to previous encounters might be more sensitive.

Owing to the flexibility of the method, it should be possible to analyze changes in the patterns of verbal behavior within the interview. Thus, it might be possible to identify behaviors which are most effective and occur more frequently early in the interview and others which are most appropriate late in the interview.

The use of multiple regression offers intriguing possibilities for determining the relative importance of the interview variables and the combinations of variables which contribute most to patient satisfaction and understanding.

Finally, the method of analysis described has been limited to providing data on frequencies of behaviors. However, any behavior, regardless of its general effectiveness, may be used inappropriately. It should be possible to combine the frequency measure with a measure of appropriate-

ness to investigate the effects of behaviors which are employed clumsily or at unsuitable times.

In addition to such naturalistic studies, it would be most valuable to conduct experimental studies in which specific behaviors are systematically added to the physician's interviewing repertoire. Investigations of this type would provide the clearest and most compelling evidence for the effectiveness of given variables in influencing patient attitudes and behaviors.

In summary, the findings reported in this study suggest that the examination of physician verbal behaviors may be a particularly fruitful area for further investigation, facilitated by a potent and flexible methodology for generating data and testing hypotheses. Although the lack of experimental controls and measurement problems present significant obstacles, the importance of understanding the factors in the initial medical interview which influence desirable patient outcomes warrants continued study.

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