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PATTERNS OF PSYCHOSOCIAL PERFORMANCE IN THE DOCTOR–PATIENT ENCOUNTER: A STUDY OF FAMILY PRACTICE RESIDENTS

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Abstract—Doctor–patient psychosocial interactions were studied for a group of 34 family practice residents. Analysis of the data of 102 patient encounters indicated that a continuum of psychosocial skills existed, with residents exhibiting generally strong performance in certain areas, and generally weak performance in others. Specifically, residents appeared more competent with basic psychosocial interactions than with those requiring a more in-depth encounter with the patient's phenomenological reality. Differences by year of resident were noted, with third year residents generally performing better in areas requiring more complex and intimate interactions. Differences according to sex of resident were also observed, with women residents outperforming male residents in many of the more complex areas of psychosocial interaction.

Key words—medical education, behavioral science, resident psychosocial performance

INTRODUCTION

Despite the biotechnological miracles which have transformed the nature of medicine in the past 50 years, the doctor–patient relationship remains at the core of the practice of medicine [1]. Social science began to seriously analyze doctor–patient interaction more than two decades ago [2], and research in this area remains vigorous [3].

The importance of systematic scientific attention to the psychosocial aspects of physician–patient interaction is well-documented [4]. Many studies have linked good physician communication skills with improved patient satisfaction [5], more recently implying a positive impact on the physician's malpractice risk [6]. Other studies have examined communication as a mediating variable in patient compliance [7]. Still other perspectives have emphasized the precious and complex therapeutic potential of the doctor–patient interaction [8]. Further, doctor and patient communication skills have been advocated as one way of mitigating the emotional and economic costs of the 'difficult patient' syndrome [9].

Certain epidemiologic realities also argue for the importance of developing specialized psychosocial skills in the physican. It has been asserted that one-third of all diagnoses among family physicians are behavioral and/or psychological in nature [10]; and that psychological intervention is associated with significant decreases in the frequency of patient visits [11]. It further has been documented that approx. 60% of individuals with ADM (alcohol, drug abuse and mental) disorders are treated only in the primary care sector [12].

Thus, doctor–patient psychosocial interaction comprises a key dimension of health care, and deserves further attention and study. The purpose of the present study was to evaluate and assess different psychosocial and behavioral dimensions of resident performance as exhibited in typical doctor–patient encounters. Most previous studies of this nature have been conducted at the medical student level [13], possibly because of greater accessibility, and possibly because this is the period of greatest emphasis on teaching interviewing skills. These studies usually have the aim of discovering the efficacy of a particular training intervention. They often employ simulated patients [14], or even written responses to hypothetical patients.

However, it has been demonstrated that although students can be taught to exhibit a greater preference for psychosocial responses, they will not necessarily demonstrate these responses in actual encounters with patients [15, 16]. Secondly, research also shows that often there is significant decay over time in student interviewing performance [17]. For these reasons the present study focused on a population of residents who had primary responsibility for large numbers of patients, and who, with greater experience, would have had more time to integrate psychosocial training into their practice. It also selected a more naturalistic approach: rather than using simulated patients or video stimuli, this study examined resident interactions with actual patients in normal outpatient clinic settings.

Psychosocial training program description

While no training intervention *per se* was being tested in this study, residents were exposed, intensively in their first year, and continuing into their second and third years of training, to a clinic-based behavioral science program. In the absence of a control group, none of the interactional strengths, weaknesses, and patterns described below can be attributed to this program; however, it is worthwhile to mention briefly some of the philosophical assumptions and pragmatic realities of this training program.

The behavioral science clinic program relied on an observational system of residents which employed direct observation, use of a one-way mirror, and videotaping. All data presented in this study were collected through direct observation.

Residents generally participated in a brief pre-patient encounter preparation with a behavioral scientist, in which the demographics and socioeconomic status of the patient were established; the goals and expectations of resident and patient were clarified; and any special problems connected with the care of the patient were highlighted. A similarly short post-encounter debriefing focused on the sharing of mutual reactions of resident and behavioral scientist to the actual encounter; assessment of the extent to which the resident's and faculty's mutually constructed game plan had been executed with the patient; problem-solving of emergent difficulties; exploration of resident's feelings; and ascertaining whether the resident had acquired any new content material.

Teaching approaches in the behavioral science program tended to focus on the detailed analysis of the process and content of the interview itself. Research indicates that behavioral science attitudes among residents are significantly higher than behavior science actions [16], meaning that residents' beliefs about the importance of behavioral science are considerably greater than their actual incorporation of beliefs into practice. Thus, the program emphasized the action, rather than beliefs of the residents, but included debriefing the resident in a contextual fashion focusing on the subjective experience of both patient and physican.

METHOD

Data were collected during the period July 1986 to July 1987. Thus the data presented here are cross-sectional, not longitudinal. The sample consisted of a total of 34 residents enrolled in a family practice residency program during the time frame specified. Residents eventually included in the study numbered 27. The 7 excluded residents were omitted from the study because of leaving the program (1) or insufficient observational times (6). Seven women and 20 men were included in the study. Eleven of the residents were in their first year of training; 9 were in the second year; and 7 were in their final year.

Each resident participating in the study received evaluations at regular intervals over the period of once year. A total of 102 interviews were analyzed. Ratings were made by one of two behavioral science faculty, one male, one female. Efforts were made to balance ratings so that each resident was observed at least once by each evaluator. Raters were trained to an 85% level of agreement using a criterion tape. Subsequent reliability coefficients calculated on the basis of 10 simultaneously observed interviews ranged from 0.74 to 0.91.

A 42-item questionnaire developed by the author was used in making resident assessments. A Likert-type scale (1–5) was used in the ratings. It was, therefore, possible to obtain from the instrument information both on frequency of behavior (whether or not the resident engaged in the behavior at all) and quality of performance (rater's estimation of the quality of the behavior). Scores for each item were summed and averaged. A combined score based on both frequency and quality was obtained and used in data analysis comparisons.

The assessment form used was derived from other instruments and interview checklists currently in use at other medical schools and departments of family medicine [18]. Typical checklists of interviewing skills include the following, which also comprised items on the form used in this study: opening and closing skills; organization and structure of interview; avoidance of medical jargon; ability to establish rapport and engender trust; sensitivity to both patient and physican nonverbal communication; clarity of information transfer; active listening skills; attention to psychosocial history; psychosocial impact of illness on patient and family; ability to understand the patient's perspective on illness; and skill in recognizing and expressing one's own feelings [19, 20, 21]. Most good medical interviews are considered to adopt a patient-centered approach in the interaction [22, 23, 24], which was also measured by the present instrument. Finally, most checklists emphasize the physician's ability to discuss the patient's feelings and emotions [25], a dimension included in this study's checklist as well. Five experienced behavioral science faculty contributed to the construction of this evaluation form. It was also reviewed by physician-faculty and 2 chief residents for input.

The patients included in this study were primarily publicly funded and indigent, although privately insured, middle-class patients were represented as well. Patients were distributed across all age ranges and major ethnic groups, with an over-representation of Hispanic patients, reflective of the lower socioeconomic demographics of the local community. The presenting problems of patients covered a wide range of diagnoses including prenatal visits, well-child checks, upper respiratory infections, urinary track infections etc. Counseling sessions (e.g. with depressed patients), substance abusing patients, and emergency-type situations were excluded from the study. Although it could be argued that such patients provided greater opportunity for resident psychosocial performance, the focus of this study was on more 'typical' physician–patient interactions.

DATA ANALYSIS

Multidimensional scaling (MDS), in combination with cluster analysis, was used to arrive at a picture of the relationships among the various encounter form items. MDS methods attempt to uncover the underlying structure of a set of stimuli. Two major purposes of MDS are to determine the appropriate dimensionality of the structure (i.e. the number of dimensions) and the configuration (i.e. the nature of the dimensions) [26, 27]. One advantage is that the structure need not be unidimensional in nature. Rather, as the name implies, several important dimensions may be operating simultaneously. Additionally, the resulting solution can be represented visually (in the form of a graph). Stimuli which are situated close together are those more similar to each other than stimuli which are located far apart. The value of MDS lies not in identifying statistically significant differences among stimuli, but rather in depicting overall patterns or trends.

In order to analyze the data by year and sex of resident, the SYSTAT box plot program was used [28], which makes it possible to compare batches of data from several groups on the same scale. The grouped box plot display is a graphical analogue to the one-way analysis of variance.

A descriptive analysis of the data showed a consistent confluence of low frequency of item usage and poor quality of performance. Thus, items which averaged a low score on quality of performance were also associated with low frequency of usage. A combined frequency/performance score was used both in the MDS and the box plot analysis.

RESULTS

Individual assessment items were tabulated both for frequency of usage and quality of performance. Usage ranged from a high of 98.7% ('Effort to put patient at ease') to a low of 21.1% ('Writes down medical/behavioral tasks assigned to patient'). Quality of performance varied from a maximum mean group score of 4.8 ('Summarizes information') to a low of 1.9 ('Writes down medical/behavioral tasks assigned to patient'). The overall group mean was 3.57, with a standard deviation of 1.12.

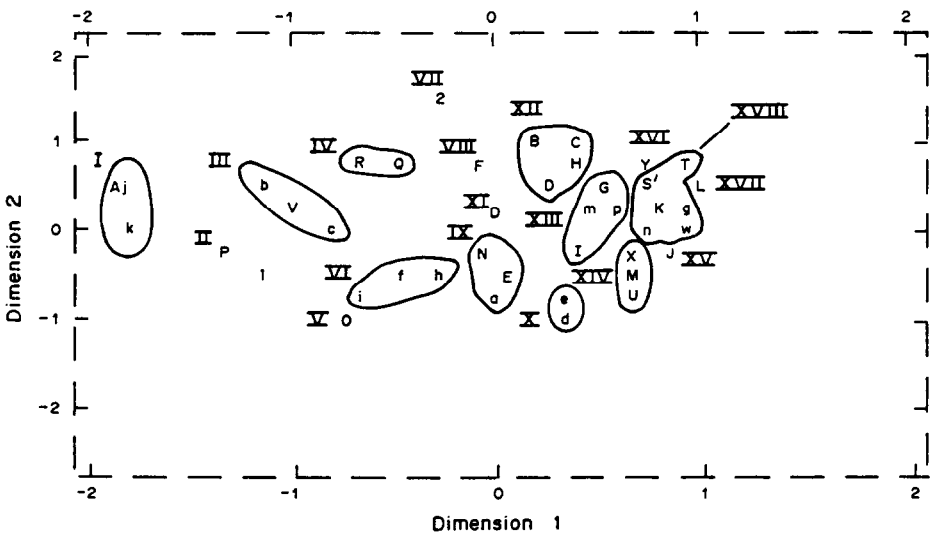

Fig. 1. Multidimensional scaling and cluster analysis of resident psychosocial behaviors.

Cluster definitions:

I. *Meaning/impact of illness*—A = discusses impact of disease on patient, j = discusses impact of disease on family, k = uses family to implement treatment program.

II. *Family as information resource: broad*—P = requests information from family members.

III. *Personal feelings*—b = consults with others at personal level, V = makes self-disclosing statements, c = discusses own emotional reaction to patient.

IV. *Initiating psychosocial exploration*—R = explores emotional concerns, Q = requests psychosocial information.

V. *Acknowledging patient's unexpressed feelings*—O = awareness of patient nonverbal cues.

VI. *Initiating psychosocial intervention*—i = writes down patient tasks, f = makes a psychosocial intervention, h = encourages patient to paraphrase instructions.

VII. *Family as information resource: specific*—Z = asking questions of person accompanying patient.

VIII. *Time management: overt*—F = notes time available.

IX. *Clarification of problem*—N = uses paraphrasing skills, E = states goals for interview, a = looks up information.

X. *Explanations*—e = explains treatment and procedures, d = explains reason for referral.

XI. *General rapport: reassurance*—o = reassures patient appropriately.

XII. *General rapport: opening*—B = quality of greeting, C = puts patient at ease, H = scans other problem areas, D = comfortable presentation.

XIII. *General rapport: patient-centered*—G = elicits patient rationale for visit, m = specific future course of action, p = overall rapport with patient, I = elicits patient expectations.

XIV. *Focus on and support of patient*—X = checks past patient compliance, M = focuses on patient, U = reinforces patient.

XV. *Concrete behavioral skills*—J = time management.

XVI. *Concrete behavioral skills*—Y = referring to patient chart.

XVII. *Concrete behavioral skills*—L = asking specific questions.

XVIII. *Basic psychosocial communication*—T = avoids criticism of patients, g = avoids technical jargon, w = uses appropriate gestures, nonverbal, S = shows concern for patient, K = uses open-ended questions, n = elicits feedback from patient.

MULTIDIMENSIONAL SCALING ANALYSIS

Areas of resident psychosocial proficiency

Examination of Fig. 1 reveals the performance patterns for the study group as a whole discussed below. For the purpose of this study, mastery of individual psychosocial items was defined as a frequency of usage of 60% or greater (in instances where endorsement of the item was judged appropriate), and quality of performance receiving a rating of 3.0 or higher. According to these criteria, residents' strongest performance was in the area of *basic psychosocial communication*, including asking open-ended questions, showing concern for patients, avoiding criticism of the patient, avoiding technical jargon, and eliciting patient feedback. Residents also demonstrated strength in *concrete behavioral skills* such as time management, referring to the patient's chart, and asking specific questions. Skills which were generally supportive of the patient, such as *focusing on the patient*, reinforcing the patient, and checking compliance were also strong. Residents appeared relatively proficient in basic *patient-centered behaviors*, such as eliciting the patient's rationale and expectations for the visit, and in their ability to establish *rapport* with the patient. In general, their skills in *providing adequate explanations* to patients were also mastered fairly well.

Areas of resident psychosocial incompetence

Poorest resident performance involved a cluster of items concerning discussion of the *meaning and implications of illness* with patient and family, as well as the *ability to place the patient in the context of the family* and *involve the family in treatment*. Residents also performed poorly in terms of dealing with *personal feelings*, both their own and the patients'. Poor performance also characterized resident attempts to actively initiate *exploration of psychosocial topics* with the patient, to *acknowledge the patient's unexpressed feelings*, or to *make a psychosocial intervention*.

ANALYSIS BY YEAR AND SEX OF RESIDENT

Performance differences by year of resident

In general, areas of overall resident performance excellence (Fig. 1, clusters X–XVIII) showed little or no differences among the three years of residents studied. However, some exceptions were found to this observation. In the following areas, third year residents showed significantly superior performance when compared to first year residents: asking open-ended questions ($P < 0.05$); showing concern for the patient ($P < 0.01$); explaining treatment ($P < 0.05$); and avoiding technical jargon ($P < 0.05$).

Evidence of performance differences among residents was found more frequently in areas of overall less proficient performance (Fig. 1, clusters I–IX). When compared to first year residents, third year residents had better skills in the following areas: making self-disclosing statements ($P < 0.05$); asking questions about family members ($P < 0.05$); discussing their own emotions ($P < 0.05$); writing down specific information for the patient ($P < 0.01$); discussing the impact of disease on the patient ($P < 0.01$) and on the family ($P < 0.01$).

In a few areas, first year residents outperformed both second and third year residents: reinforcing the patient ($P < 0.05$); avoiding criticism of the patient ($P < 0.05$); referring to the patient's chart ($P < 0.05$); and explaining referrals ($P < 0.05$). Second years outperformed first and third years in seeking consultation ($P < 0.05$); involving the family in the treatment program ($P < 0.05$); eliciting the patient's rationale for the visit ($P < 0.05$); and outlining a specific future course of action ($P < 0.05$).

Sex differences among residents

Women residents tended to outperform male residents (at the 0.05 level of significance) in a number of patient-centered areas in which overall resident performance was poor: awareness of patient nonverbal cues; requesting psychosocial information; consulting with others; looking up information; and discussing the impact of disease on patient and family. Their performance also exceeded that of male residents in three areas of generally high performance: eliciting the patient's rationale for the visit; avoiding criticism of the patient; and asking questions of the person accompanying the patient. Visual inspection of the data suggests that these differences tended to be more pronounced in the first year, and to level out in the third year.

DISCUSSION

An earlier study of communication skills in medical students [29] derived two levels of psychosocial skills from a factor analysis of 475 interviews: (1) basic communication skills, a similar concept to what this study has defined as basic psychosocial skills in doctor–patient interaction, (2) professional, technical skills, which resemble the more complex, intimate and phenomenological group of skills identified in this study. In a similar finding to the Irwin study, the multidimensional scaling and cluster analyses used in this study indicated that not all psychosocial skills are interrelated and correlated. Rather, there were significant differences in residents' performance across the clusters which emerged from analysis. A continuum of psychosocial skills in fact existed, with residents showing relatively strong performance in certain areas and relatively weak performance in other areas.

The Irwin data concluded that the primary strengths of residents were to be found in the area of basic communication skills; and that, conversely, students had more difficulty learning aspects of intervention that required changes in the styles of their emotional responses. This conclusion appeared partially valid for this group of residents as well. In this study, residents were relatively proficient in basic psychosocial communication, concrete behavioral techniques, attending to and supporting the patient, and general rapport with patients. These items represent a level of skills which tends to be characterized by more routine, cookbook-like sets of interactions.

On a more complex level, requiring systemic, contextual efforts to enter deeply into the phenomenological reality of the patient's world, residents fared

less well. Residents demonstrated relatively less mastery in terms of talking with patients and families about the impact of illness, sharing their own feelings, initiating psychosocial explorations, making psychosocial interventions, and being sensitive to the patient's unexpressed feelings.

The Irwin study also found that the more basic communication skills appeared quickly, and were used more often than more complex skills. The cross-sectional design of the present study makes it impossible to evaluate resident change over time. However, while in some basic skills, third year residents outperformed first years', areas of strong psychosocial performance tended to be equally represented across all three years of training. As was pointed out earlier, there was also a stong correlation between frequency of usage and quality of performance.

The most favored strategy among residents for dealing with difficult areas of psychosocial patient interaction was avoidance. This conclusion is based on the high concordance beween frequency of usage and quality of performance across year of resident. Partly, of course, this is a pragmatic issue. Large numbers of behaviors were being rated, and residents could not accomplish them all in a given interview. Residents may have been influenced by the fact that they were being observed, and relied more heavily on skills which they felt more confident they could perform well. It is also possible that residents had a basic discomfort with the type of more intimate, threatening and personal interaction required by many of the underutilized items, and neglected them as inappropriate or unnecessary to a standard medical interview.

Earlier researchers have concluded that psychosocial skills of attending and responding both to the content communication and feeling state of the patient can be directly taught [25]. However, the Irwin *et al.* study noted that over time there was less improvement in basic skills (which, as in the present study, overall remained consistently high); and more improvement in the complex skills.

The present study confirmed that in the area of basic skills, where performance remained strong across the three years of training, overall there were few differences among first, second and third year residents. Exceptions to this generalization were found in the residents' ability to provide thorough explanations of diagnosis and treatment for patients, which tended to be stronger in third year residents; and in such basic psychosocial skills as asking open-ended questions, showing concern, and avoiding jargon, which also tended to be more proficient at the third year level. These findings suggest a certain teachability in basic-level skills.

The most noticeable differences between third and first and second year residents, however, as in the Irwin study, appeared in areas of complex skills. As a group, third year residents appeared to be more successful in attending to complex interpersonal communications, and in apprehending the patient's subjective reality. In particular, they demonstrated greater expertise in discussing the meaning of patient illness, contexting the patient within the family, processing personal feelings, and gathering psychosocial information. Thus, it appears that some progress can be achieved at the level of complex skill acquisition, although this level is likely to remain less well mastered overall.

The few areas in which first year residents tended to show greater proficiency were basic psychosocial skills which might be characterized by a quasi-placating element. It is possible to speculate that first year residents, in being so meticulous about reinforcing and not criticizing patients, giving elaborate information about referrals, and perusing patient charts so diligently were motivated in part by a desire not to offend the patient, and not to make a mistake. By contrast, the third year residents, while perhaps not quite as 'gentle' with patients, appeared to be more authentic, more genuine, more sincerely concerned with establishing relationship with their patients.

Second year residents, in contrast to both first and third year residents, exhibited certain strengths in very specific, technique-oriented psychosocial areas. Having had more exposure to behavioral science training than first year residents, they were able to display more facility in such concrete behaviors as eliciting the patient's reason for coming, outlining a specific course of action, consulting with the attending, and involving the family in treatment plans. However, in comparing performance differences between second and third year residents, one might infer that the second year residents appeared to be characterized by a type of overlearned response, as opposed to the more substantive understanding displayed by third year residents; a preoccupation with skill mastery rather than a true consideration of patient needs; a doctor-centered rather than a patient-centered approach.

Finally, it is important to acknowledge that in many areas of psychosocial performance, there were no discernible differences achieved between levels of resident. Important psychosocial behaviors such as awareness of patient nonverbal cues, ability to explore the patient's emotional concerns, encouraging the patient to paraphrase and paraphrasing the patient's statements, as well as initiating psychosocial interventions remained poorly mastered skills which showed no differences across the three years of training. Areas such as these merit aggressive and creative teaching strategies, in order to enhance skills which should be included in the psychosocial armamentarium of any physician.

Women residents tended to outperform male residents in many of the more complex areas of psychosocial interaction, although their performance in these areas was not as strong as in the more basic psychosocial communication skills. Earlier research has also substantiated differences between male and female physicians in the psychosocial realm, for example noting that female physicians interrupt patients significantly less often than do male physicians [30]. Another study, however, documented gender differences at the basic, but not the advanced level of psychosocial interviewing when examining the patient interactions of male and female medical students [31]. Given the small number of women residents involved in the current study, it is apparent more work needs to be done in this area, involving

replication of preliminary findings, before firm conclusions can be reached.

IMPLICATIONS FOR TEACHING

In examining our own behavioral science teaching program, we were forced to conclude that the easiest, least complex psychosocial skills also lent themselves most readily to 'catch-as-catch-can' teaching, and that an unnecessary amount of time was perhaps spent on them. For example, residents appeared to grasp fairly quickly the basic skills of opening and closing interviews. They also appeared able to easily learn to attend to the patient, express concern and reassure the patient etc. Given the pragmatic realities of clinic-based teaching, there may be a temptation to keep focusing on skills which are relatively simple, accessible and behavioral.

At the same time, while there appeared to be an overteaching and overlearning of skills which could easily be reduced to the level of technique, there also appeared to be an avoidance of the more subtle, complex psychosocial skills, not only on the part of the resident, but on the part of the behavioral science faculty as well. It often appeared difficult to find the proper time and the right environment to make the resident feel safe enough to allow something of her or himself to enter into the teaching experience, and subsequently into the doctor–patient encounter. To enable the resident to discuss the impact of a given disease on patient and family, it was first necessary to ascertain what this particular illness might mean to the resident.

It is not necessarily more time *per se* that is needed to accomplish this kind of teaching, but a greater willingness to adopt a different focus in teaching. Rather than supplying residents with cookbook answers, we as teachers need more discussion, more exploration, more engagement with the ambiguities of the situation. We need the courage to grapple with the hard, messy questions, which are the questions usually most important in the lives of both physician and patient.

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