BRIEF REPORT

Determinants of Resident Satisfaction with Patients in Their Continuity Clinic

Don R. Barnett, MD, Pat F. Bass III, MD, Charles H. Griffith III, MD, T. Shawn Caudill, MD, John F. Wilson, PhD

The purpose of this study was to identify what patient and physician factors influence resident satisfaction with patient encounters in a continuity clinic setting. Resident satisfaction was assessed from postencounter questionnaires completed by 68 internal medicine residents regarding 979 patient encounters. We found that residents were more satisfied with patients diagnosed with general medical problems than with patients diagnosed with pain and psychiatric disorders. First-year residents were less satisfied with patients diagnosed with pain and psychiatric disorders than second- and third-year residents. However, this dissatisfaction with seeing patients with pain or psychiatric disorders lessened as continuity of care was enhanced.

KEY WORDS: satisfaction; residency training; continuity clinic; primary care; psychiatric disorders.

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As a greater percentage of resident training has moved from the hospital to the ambulatory setting, medical educators have strived to develop satisfactory educational ambulatory experiences.^{1,2} Research has suggested that a resident's satisfaction with the clinic environment improves learning in the ambulatory setting.³ However, the research that has been done looking at resident satisfaction has primarily focused on residents' overall satisfaction with the ambulatory training experience.^{4,5} These global assessments of satisfaction provide no detail of the specific determinants of satisfaction in these settings. The purpose of this project was to identify what patient and physician factors influence resident satisfaction with individual patient encounters in a continuity clinic setting.

METHODS

Resident satisfaction with patients in their continuity care clinic was assessed over an 8-week period in May and June 2000, coinciding with the availability of medical student research assistants. The study setting was 1 university-based residency training program's continuity clinic practice. Each continuity clinic "team" was composed of 4 residents and 1 supervising faculty physician. Residents had continuity clinic once or twice a week. In general each resident saw 3 to 6 patients per afternoon, with 1 time slot per clinic day available for "call-in" or acute care patients.

After each clinic, residents completed a brief questionnaire regarding their satisfaction with individual patients in clinic that day. The resident satisfaction instrument consisted of 3 items on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree), derived from a well-validated and reliable encounter-specific questionnaire.⁶ The 3 items assessed the resident's overall satisfaction with the encounter, the degree of frustration with the encounter, and the resident's perceived satisfaction of the patient (i.e., the resident's assessment of whether he or she thought the patient was satisfied with the encounter). Cronbach's α for the 3 items was 0.88. Resident satisfaction was defined as the mean of the 3 items on the questionnaire.

In addition, residents were asked to indicate their call status (on call, postcall, precall, or not in call schedule) and current rotation (hospital wards, intensive care unit, subspecialty consult, or ambulatory care). The resident questionnaires were collected at the end of each clinic. The project was judged by our Institutional Review Board as IRB exempt.

Patient data that were collected included demographic variables such as gender, age, ethnicity, level of education, and type of insurance. Continuity of care was assessed by a single question on the resident satisfaction questionnaire: "Is this the first time you saw this patient?" with residents answering yes or no. In addition, on the post-encounter questionnaire, the resident was asked to record the primary diagnosis of the patient. The patient's diagnosis was the patient's billing diagnosis as agreed upon by the resident and supervising faculty physician. All of the recorded primary diagnoses in the study were coded and divided into 4 broad diagnostic categories by 2 independent

Received from Primary Care (DRB), VA Eastern Kansas Health Care System, Topeka, Kan; Department of Medicine (PFB), Louisiana State University Health Sciences Center, Shreveport, La; and the Department of Internal Medicine (CHG, TSC, JFW), University of Kentucky College of Medicine, Lexington, Ky.

Address correspondence and requests for reprints to Dr. Barnett: VA Eastern Kansas Health Care System, 2200 Gage Boulevard, 11-PC, Topeka, KS 66622 (e-mail: donald.barnett@med.va.gov).

evaluators: 1) common general medical problems; 2) pain disorders; 3) psychiatric disorders; and 4) other. Common general medical problems included such diagnoses as hypertension, diabetes mellitus, and hyperlipidemia. Pain disorders included low back pain, abdominal pain, and headache. Psychiatric disorders included depression, bipolar disorder, and schizophrenia. Other encompassed the remaining less common diagnoses, such as pernicious anemia or hyperparathyroidism. Agreement by the 2 independent evaluators on diagnosis coding was greater than 95%.

Our primary analytic approach used multiple regression approaches from the General Linear Model, which allows use of both categorical and continuous independent variables in predicting dependent variables. Typical regression diagnostics including outlier analysis and influence statistics were used to assure that the regression models were not affected by univariate outliers, multivariate outliers, or violations of multivariate normality. The resident satisfaction score was the dependent variable, with patient and physician variables as independent variables. Patient variables included primary diagnosis, whether a continuity patient or not, and various demographic variables. Physician variables included resident training track (primary care versus other), year of postgraduate training, current rotation, and call status. Interaction terms were added to the model to test specific hypotheses related to factors moderating the main effects of the independent variables. For example, a patient diagnosis by resident year of training interaction term was included in an analysis to determine whether the association between patient diagnosis and resident satisfaction differed for first-, second-, and third-year residents. All analyses were performed using SAS (SAS Institute, Cary, NC).

RESULTS

All 68 internal medicine residents seeing patients in the clinic during the study period voluntarily completed the questionnaires. Twenty-five residents (37%) were female. There were 11 (16%) first-year, 24 (35%) second-year, 27 (40%) third-year, and 6 (9%) fourth-year medicine-pediatrics residents. The 6 fourth-year residents were considered senior (i.e., third-year) residents in all analyses.

The patients ranged in age from 16 to 97, 59% of whom were female. Two-thirds of patients had a high school education or greater and 20% were from minority groups. The payer demographics were 36% commercial insurance, 36% Medicare, 20% Medicaid, and 8% patient pay. Demographically, the patients for whom we had resident satisfaction data did not differ from the other patients in our resident continuity practice. As far as primary diagnosis, 51% had a common general medical problem, 24% had a pain disorder, 9% had a psychiatric disorder as the primary diagnosis, and 16% had other less common diagnoses. The residents judged 78% of the patient encounters as continuity patients.

Residents completed 979 questionnaires. The number of questionnaires completed by each resident ranged from 2 to 60, with a median of 23. The mean resident satisfaction score for all resident clinic visits was 4.02 (SD [standard deviation], 0.91) on the 5-point Likert scale.

Multiple patient factors were not associated with resident satisfaction, including patient education level, ethnicity, and type of insurance. However, the patient's primary diagnosis was significantly associated with differences in resident satisfaction. The mean resident satisfaction score for clinic encounters with patients whose primary diagnosis was a common general medical problem was 4.30 (SD, 0.73) on a 5-point Likert scale. The mean resident satisfaction score for patients diagnosed with pain and psychiatric disorders was 3.57 (SD, 0.94) and 3.27 (SD, 0.96) respectively, with $P < .0001$ for the difference in satisfaction between general and other medical problems versus pain and psychiatric disorders.

Overall, patient continuity was not found to be independently associated with resident satisfaction with clinic encounters. However, in analysis of interactions, patient continuity was an important predictor of resident satisfaction if the patient had a psychiatric disorder. The mean resident satisfaction score of clinic encounters with patients with psychiatric disorders was 3.50 (SD, 0.89; $P < .05$) if the patients had been seen previously by the resident and 2.97 (SD, 0.98; $P < .05$) if the patients had not been seen by the resident previously.

A number of physician factors were not associated with resident satisfaction with continuity clinic patients, including resident gender, residency program, call status, and rotation. However, resident satisfaction with clinic encounters was influenced by the interaction of years of postgraduate training with patient diagnosis. Overall, the resident satisfaction with patients with pain or psychiatric disorders was lower for first-year residents than in subsequent years of training (see Fig. 1).

DISCUSSION

Our study represents one of the few studies to investigate determinants of resident satisfaction with their continuity clinic and differs in that we assessed encounter-specific satisfaction with individual patients. A number of factors were found to be associated with differences in resident satisfaction with their clinic patients, including the diagnosis of the patient, and in some situations, continuity of care and the resident's year of training. Perhaps surprisingly, resident factors such as postcall or on-call status and current rotation did not influence resident satisfaction. Residents remained highly satisfied whether being tired and postcall or not. The factor most predictive of resident satisfaction in this study was the diagnosis of the patient. The satisfaction of residents was significantly lower for clinic encounters with patients diagnosed with pain and psychiatric disorders.

FIGURE 1. Association of postgraduate year with resident satisfaction by patient diagnosis.

§ $P < .05$ for difference between general medicine/other patients versus psychiatry/pain patients for all 3 years. # Difference in resident satisfaction for general medicine/other patients versus pain/psychiatric patients is significantly less for postgraduate year 3 residents than postgraduate year 1 or 2.

A considerable amount of research has focused on defining the characteristics of difficult patients.⁷⁻⁹ A common theme has emerged from these studies: patients that are perceived as difficult by physicians are more likely to have psychopathology such as depression, anxiety, or somatization. Not only are these patients often perceived as “difficult,” but our findings are similar to other studies noting physician dissatisfaction with patients with psychiatric disorders.⁷⁻⁹

Interestingly, we found that first-year residents were much less satisfied with patients diagnosed with pain and psychiatric disorders compared to more senior residents. One explanation may be that residents may become more confident as they gain more experience and skills in the clinic, becoming confident and satisfied even with challenging patient encounters. This suggests that residents may benefit from more extensive training in management of pain and psychiatric disorders early in their clinical training to enhance resident and presumably patient satisfaction with such visits. Such training could occur in a variety of ways. For example, ambulatory care conferences or interactive computer-based modules regarding the care of pain and psychiatric patients could be required of residents to complete early in their training, before embarking on continuity practice. Better still, ambulatory workshops could be conducted early in the academic year, using standardized patients or role play, so that residents have the opportunity for coached practice and feedback in the care of pain and psychiatric patients, so that they will become comfortable with these patients when encountered in clinic. Developing and evaluating such educational interventions would be an area for further research.

In addition, continuity of care was associated with greater resident satisfaction for clinic encounters involving patients with psychiatric disorders, perhaps not surprising in these often more challenging patient encounters. One should note our measure of continuity was somewhat

crude, consisting of whether the resident had ever seen the patient before (yes/no). Future studies should consider more sophisticated measures of continuity, such as quantifying in some fashion the degree of closeness or intensity of the resident-patient relationship.

This study may be limited in generalizability in that the sample consists of internal medicine residents from one program. Second, we have no data (audiotapes, videotapes, etc.) of what actually occurred in the encounters that was perceived as more versus less satisfying, and would be an area of further research. In addition, one could imagine that pain or psychiatric patients might be perceived as less satisfying for other reasons than simply what takes place in the encounter, such as requiring more of a clinic's resources in terms of room turnover. Third, there are other patient and resident dimensions we did not account for, such as personality, psychologic characteristics and knowledge, or other resident-related characteristics, such as degree of attending supervision, or attending's knowledge of psychiatric care. All of these areas would be ripe for future studies.

Nevertheless, we conclude that patient diagnosis, continuity of care, and level of training all play important roles in resident satisfaction with their continuity care patients. Ultimately, it is hoped that the information gathered in studies such as ours might guide the development of educational experiences that are satisfying to residents and to the patients themselves.

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