

The Association of How Time is Spent During Outpatient Visits and Patient Satisfaction: Are There Racial Differences?

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Both satisfaction with the physician and how time is spent in the patient-physician outpatient visit have been shown to differ between African-American and Caucasian patients. This study uses structural equation modeling to examine racial differences in the association between time use during the outpatient visit and patient satisfaction.

This cross-sectional study employed direct observation of outpatient visits and surveys of 2,502 adult African-American and Caucasian outpatients visiting 138 primary care physicians in 84 family practices in Northeast Ohio. Patient satisfaction was measured using the Medical Outcome Study (MOS) nine-item Visit Rating Scale. Time use was assessed with the Davis Observation Code, which was used to classify every 20 seconds of a visit into 20 behavioral categories.

No difference was found between African-American and Caucasian patients in the association between patient satisfaction with a physician and the time the physician spent chatting, planning treatment, providing health education, structuring the interaction, assessing health knowledge or answering patient questions. Patients were generally satisfied with their physicians, and no racial differences between Caucasians and African Americans were observed.

Despite racial differences in how physicians spend time in the outpatient visit encounter, these differences are not associated with racial differences in patient satisfaction. Efforts to understand disparities in satisfaction should address areas other than how physicians allocate time in the physician-patient encounter.

Key words: patient-physician relationship ■ physician satisfaction ■ health disparities

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INTRODUCTION

Patient satisfaction with physicians is widely used as an indicator of quality of care received by African Americans.^{1,2} Recent literature on disparities in patient satisfaction with the physician between African-American and Caucasian patients has been mixed. Some studies have shown that there are no differences in patient satisfaction with physicians.^{3,4} Other studies have suggested that African Americans are less satisfied than Caucasians with the patient-physician interaction. Specifically, African Americans have fewer positive perceptions of their physicians, have less involvement in decision-making, have lower levels of trust in physicians and are less likely to develop partnerships with physicians.^{5,6} This lower level of satisfaction with physicians should be of concern because this dissatisfaction can negatively affect patients' adherence to recommended treatment,^{7,8} their desire to seek care⁷ and their trust in the healthcare system.⁹

An in-depth examination of the patient-physician interaction has shown significant differences in how primary care physicians spend time in outpatient visits with African-American patients.¹⁰ In encounters with African-American patients, physicians spend less time chatting, planning treatments, answering patient questions and providing health education and more time structuring interactions.¹⁰ However, it is not known whether African-American patients' satisfaction with a physician is associated with how time is spent during the visit. This study examines whether racial differences in time used during outpatient visits were associated with racial differences in patient satisfaction.

METHODS

These analyses are part of the Direct Observation of Primary Care (DOPC) study, a multimethod, cross-sec-

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tional study designed to assess the content and context of outpatient visits to family physicians. The methods of the DOPC study have been described in detail previously.^{11,12} Briefly, 138 family physicians from 84 practices in northeast Ohio participated in this study between October 1994 and August 1995. Patients and clinicians were informed that the purpose of the study was to observe the operations of family practices. To minimize the Hawthorn effect, no specific hypotheses were shared with the physicians, staff or patients. The participants comprised a consecutive sample of all patients presenting for care during two days of observation. The sample for this report is limited to African-American and Caucasian patients who were ≥18 years old.

Patient demographics were collected from a direct observation checklist of patient visits, patient exit questionnaires and medical record reviews. Seventy-five percent of the sample completed the questionnaire, which contained an item asking the participant to self-report race. An assessment by a nurse observer was used to indicate race for those patients who did not complete a questionnaire. The nurse observer assessment was found to be highly concordant with patient reports (Kappa=0.90).¹³ Each patient's health status was measured by a five-item index¹⁴ modified from the six-item General Health Survey.¹⁵ To assess the patients' prior relationship with the physician, patients reported whether they were seeing their regular physician at this visit.

The two variables of interest were time use during the patient-physician encounter and patient satisfaction with the physician. Time use during the visit was measured with the Davis Observation Code, which partitions time into 20 different behavioral categories.¹⁶ Behaviors were documented every 20 seconds, and more than one behavioral category could be coded within an interval.¹⁶ For this study, we selected for analysis six physician-behavior time categories shown to differ significantly during outpatient encounters with African-American

patients when compared to Caucasian patients.¹⁰ These behaviors are chatting, planning treatment, providing health education, structuring interaction, assessing patient's health knowledge and answering patients' questions. In other studies, time spent structuring the patient-physician interaction has been shown to be significantly longer, while the remaining five physician behaviors have been shown to be significantly shorter during out-patient encounters with African-American patients when compared to Caucasian patients.¹⁰ We hypothesized that these behaviors would be associated with racial differences in patient satisfaction. Patient satisfaction with the physician was measured using the four physician-specific items (Table 1) from the nine-item Medical Outcome Study (MOS) Visit Rating Scale.¹⁷ All responses were measured on a five-point scale with 1 = poor and 5 = excellent. The internal consistency reliability for this subscale is 0.81.¹¹

STATISTICAL ANALYSIS

Initially, we tested the association of patient race with patient satisfaction. The sample size of 2,502 had a power of 90% to detect an effect size of 0.23 with a two-group t test evaluated at the p=0.05 level. Demographic and visit characteristic variables that demonstrated significant racial differences and that were associated with patient satisfaction with the physician (p<0.05) were identified for inclusion in the structural models as potential confounding variables. We used structural equation modeling to test for the model fit and to provide information about racial differences in the association between physician time use and patient satisfaction. A multigroup analysis was used in seven separate structural equation models to compare each of the six time-use variables between African Americans and Caucasians. An acceptable model fit was indicated if the comparative fit index (CFI) and Tucker Lewis Index (TLI) were >0.90 (>0.95 is optimal) and the root mean square error

Table 1. Demographics

| | Caucasians (n=2,285) | African Americans (n=217) | p |
|-----------------------------------|-------------------------|------------------------------|-------|
| Gender (% Female) | 64.3 | 74.7 | <0.01 |
| Age (Mean Years) | 52.1 | 46 | <0.01 |
| Median Family Income | \$39,000 | \$27,000 | <0.01 |
| Insurance | | | <0.01 |
| Medicare | 30.6 | 18.4 | |
| Medicaid | 2.9 | 16.6 | |
| Managed care | 34.7 | 41.0 | |
| Health Status | | | |
| Chronic illness (#) | 3.6 | 3.5 | 0.04 |
| Problems (#) | 2.3 | 2.6 | 0.02 |
| Years with MD (#) | 2.7 | 2.0 | <0.01 |
| Visits with Regular Physician (%) | 91.8% | 86.3% | <0.01 |
| Minutes with Physicians (Minutes) | 10.4 | 11.8 | <0.01 |

of approximation (RMSEA) was <0.08.¹⁸⁻²⁰ All models evaluated met the fit criteria. The beta coefficients indicating the direction and magnitude of association between the physician behavior category and patient satisfaction are presented for both African-American and Caucasian patients. The significance of the differences in those parameters' estimates was determined by a critical ratio difference (CRD) $\geq \pm 1.96$ between the designated parameter estimates.²¹ To determine the sample size necessary to detect a significant fit of the hypothesized model, the tables of MacCullum et al.²¹ were used with the $\alpha=0.05$, $\text{power}=0.80$, RMSEA 0.05–0.08 and eight degrees of freedom. The table indicated 754 respondents were needed in order to test for the fit of the hypothesized model to this population.

RESULTS

Among 3,427 patients ≥ 18 years old included in the analyses for this study, 925 (27%) who did not complete the survey or had >2 unanswered questions on the patient satisfaction scale were excluded from the analysis. Of the 2,502 included in the analyses, 2,285 were Caucasian and 217 were African American. Table 1 describes the characteristics of the patient sample. Compared to Caucasians, African Americans were more likely to be female and younger, to have Medicaid insurance, to participate in a managed care program and to have spent fewer years with the physician. In the observed visits, African Americans were slightly less likely to be seeing their regular physician, and their encounter with the physician was approximately one minute longer.

Overall, patients were satisfied with their physician

(Table 3). However, African Americans did report a lower level of satisfaction with the physician's technical skills and personal manner, yet after adjusting for multiple hypothesis testing,²² none of the differences are statistically significant at $p < 0.05$.

Despite the modest difference in satisfaction, we examined the association between patient satisfaction and the time spent in the six behavior categories. This analysis controlled for parameters that were significantly associated with both patient race and patient satisfaction, including the number of years the patient was with the physician, patient income and total time spent with the physician. The values in the table indicate the beta coefficient representing the association between the time use category and the summary satisfaction score for each group. A p value indicating the statistical significance of the difference between two beta coefficients is presented for each test. For example, the results for answering patient question ($p=0.015$) indicate that African Americans ($\beta=-0.16$) were less satisfied than Caucasians ($\beta=-0.04$) with their physician when more time was spent answering patient questions. However, correcting for multiple hypotheses testing, the association is no longer statistically significant.²² Thus, as displayed in Table 3, none of the racial differences in the association between time use and satisfaction were statistically significant.

DISCUSSION

Differences in time use during outpatient visits are not associated with racial differences in patient satisfaction and in quality of healthcare. Therefore, if healthcare disparities are defined as differences that lead to adverse

Table 2. Association of race with patient satisfaction

Physician-specific questions from MOS Nine-Item Satisfaction Visit Rating Scale

In terms of your satisfaction, how would you rate each of the following?
 Poor = 1, Fair = 2, Good = 3, Very Good = 4, Excellent = 5

| Satisfaction with the physician | Caucasians | African Americans | p* |
|---|------------|-------------------|------|
| The time spent with the doctor you saw | 4.25 | 4.13 | 0.07 |
| Explanation of what was done for you | 4.34 | 4.29 | 0.51 |
| The technical skills of the doctor you saw | 4.51 | 4.39 | 0.04 |
| The personal manner of the doctor you saw | 4.63 | 4.53 | 0.05 |
| Satisfaction with physician (average of four items above) | 4.43 | 4.34 | 0.09 |

Table 3. Racial difference in association with time use in physician behavior categories and patient satisfaction

| | Caucasians | African Americans | Critical Ratio Difference | p |
|--------------------------------------|------------|-------------------|---------------------------|--------|
| Chatting | 0.10 | 0.09 | 0.441 | 0.33 |
| Structuring interaction | -0.01 | 0.03 | 0.567 | 0.28 |
| Assessing patient's health knowledge | 0.00 | -0.05 | -0.699 | 0.25 |
| Planning treatment | -0.02 | -0.07 | -0.668 | 0.25 |
| Health education | 0.00 | -0.07 | -0.995 | 0.16 |
| Answering patient's questions | -0.04 | -0.16 | -2.17 | 0.015* |

* Correcting for the six tests evaluated at $p < 0.05$, the observed p level must be < 0.008 to be identified as statistically significant.

effects on patient outcomes,²³ then the observed differences in how time was spent with patients in this study may not represent a disparity in healthcare for African Americans.

Several plausible explanations may be offered for this finding. First, physicians may adjust the time spent engaging in specific behaviors to tailor their interaction with the patient. Without more detailed interactional data, however, we may not know whether this tailoring is collaborative and participatory or whether this tailoring is based primarily on the physician's presumptions of the patient's health needs.

Another interpretation may be that patients, regardless of race, are generally satisfied with their physicians.^{3,4} However, recent studies suggest that some commonly used patient satisfaction tools may not be sensitive enough to detect subtle racial differences in patient satisfaction.^{24,25} For example, discrimination and acculturation are inadequately assessed by the majority of satisfaction measures and yet may be important domains of satisfaction among minority patients.²⁵ Furthermore, when patient satisfaction surveys include items assessing patients' perception of the physician's cultural competency and of stereotyping and discriminating behaviors as well as patient trust in the physician, studies have found that African Americans and Caucasians differ in satisfaction with the physician.^{5,24,26}

Additionally, this study is the first to use direct observation to document how time was spent in physician-patient encounters among a large sample of physicians and patients in community-based practices. Two limitations related to the study sample are worth noting. First, the sampling frame of practices was geographically based in northeast Ohio and may differ from practices in other parts of the United States. Second, the vast majority of physicians captured in this sampling frame were Caucasian. However, the physicians in the sample were largely similar to the physician members of the American Academy of Family Physicians, with the exception of representing more female and more residency-trained physicians.¹¹ Likewise, the patients who participated in the study were similar to those seeing family physicians in the nationally representative National Ambulatory Care Survey.^{11,12,27} Nonetheless, generalizations of these findings to other primary care settings should be done with caution.

Further studies examining healthcare disparities and patient satisfaction with the physician should target areas other than the time physicians spend engaging in specific behaviors. Additional studies should also carefully consider the tools used to assess patient satisfaction. Disparities in satisfaction may be better identified by using newly developed patient satisfaction tools that assess African Americans' preference to evaluate a physician-patient relationship in the areas of trust, respect, caring, perceived discrimination and stereotyping. In the meantime, the findings of this study provide

some evidence that time use during outpatient primary care visits is not a source of racial difference in patient satisfaction.

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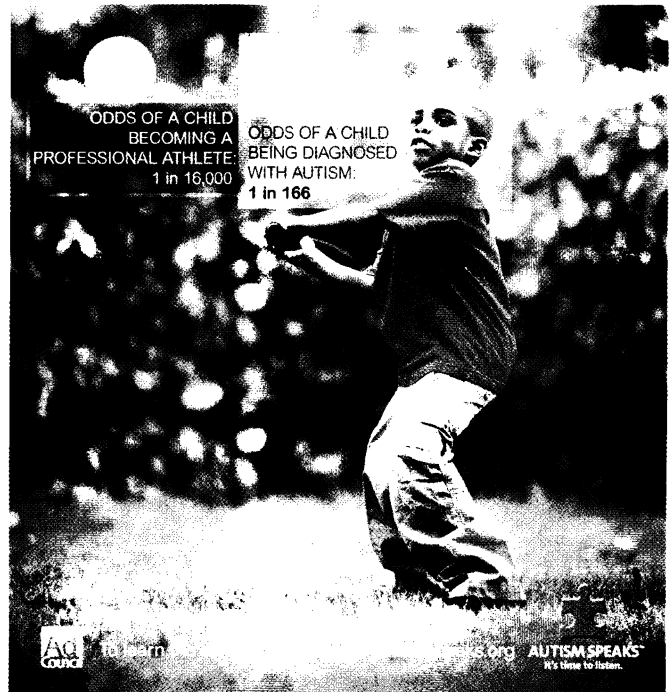
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