PHYSICIAN-PATIENT INTERACTION AND DEPRESSION AMONG AFRICAN-AMERICAN WOMEN: A NATIONAL STUDY

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Objective: To examine the relationship between physician-patient interaction and depression among African-American women.

Design: Cross-sectional survey.

Participants: 1,411 African-American women completed a mailed 46-item survey on psychological well-being.

Main Outcome Measures: The independent variables included demographics and depressive symptomatology as measured by the CES-D. The dependent variable was the mean score on an 8-item measure of physician-patient interaction, and other factors associated with physician-patient interaction.

Results: Overall, even after accounting for demographic variables, the higher scores on the CES-D were associated with lower scores on physician-patient interaction (B=1.11, 95% CI=1.06, 1.16). Depression was positively associated with: difficulty in talking to physicians, likelihood of discussing problems with physicians, reporting that a physician had made offensive comments, and the likelihood of changing physicians due to dissatisfaction (all *P* values <.01).

Conclusions: These results suggest that depressive symptomatology may be an important factor to consider in physicians' interaction with African-American women. (*Ethn Dis*. 2004;14:567–573)

Key Words: African American, Depression, Interaction, Physician, Women

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INTRODUCTION

Depressive disorders have been a major public health concern due to their excessive rates of overall mortality and morbidity, as well as their high co-morbidity with chronic illnesses.[1] The lifetime prevalence rate of major depressive disorders in the adult population ranges from 10% to 25% among women, and 5% to 12% among men.[2] Although studies have shown that women are more likely to endorse depressive symptomatology than are men,[3–6] there is a paucity of large studies that have examined whether ethnicity plays a role in these gender differences. We performed a recent study among African-American women,[7] and found that 31.9% of the women screened positive for depression. Low-income and never married women endorsed significantly more depressive symptomatology than did women in the medium and high income brackets, or women who were widowed, were married, or lived with an intimate partner. We also found that the younger the women, the higher the depressive symptomatology.[7]

Effective interaction between providers and patients is crucial in the management of chronic illnesses, including depression. Physician-patient interaction, however, has been examined in many different ways in literature, and it is not known whether researchers are measuring the same construct. Patient satisfaction, physician-patient interaction, and physician-patient communication have been used interchangeably to refer to the relationship between patient and physician in a variety of studies. Nevertheless, a number of variables have been identified to be associated with this interpersonal relationship such as age,[8–11] education,[8,10] gender,[9,11] and health status.[10] With regard to gender, an interesting picture has emerged. It has been shown that physicians tend to spend more time with women, and that women tend to ask more questions and get more information than men. Despite these findings, the Commonwealth Fund Survey on Women's Health showed that, as compared to men, women are more likely to have communication problems with physicians and to change physicians due to dissatisfaction.[12] Further, women tend to interact with the healthcare system (for themselves or their children) more often than men, which give them more opportunities to evaluate the health care they receive.[13]

Given the dramatic increase in minority populations in the United States, interest in ethnicity has grown when examining physician-patient interaction. A recent survey reported by the Commonwealth Fund indicated that minority populations endorsed more difficulties in communicating with their healthcare providers than did Whites.[14] For instance, African Americans were less likely than Whites to understand everything they were told by providers, and also were less likely to ask questions.[14] Cooper-Patrick and colleagues[15] found that African Americans tend to rate their physicians' decision-making style as less participatory than do Whites, even after adjusting for age, gender, education, marital status, and health status. The authors suggested some explanations for these findings, such as physicians' behaviors (uninten-

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tional racial bias, lack of understanding of patients' ethnic and cultural disease model or symptoms attribution, different expectations regarding the medical visit) and patients' behavior (language barriers, low health literacy, low educational attainment, and lack of self-efficacy regarding health management).[15] Depressive symptomatology may also play a role in how patients perceived their encounters with physicians.

Although studies have demonstrated that a relationship exists between depressive symptomatology and adherence to the provider's recommendations in the management of a variety of chronic illnesses,[16–18] few studies have examined the relationship between physician-patient interaction and depressive symptomatology, particularly among African-American women. Callahan and colleagues[19,20] found that presence of depressive symptomatology changes the content of physician-patient interactions, even when the diagnosis of depression is not made. However, these studies examined the content of the medical visit (eg, counseling, time spent chatting, and in taking physical history) rather than patients' perceptions of physician-patient interaction. Further, the samples consisted predominately of White participants. Therefore, the present study attempts to provide the first examination of the relationship between depressive symptomatology and physician-patient interaction among a national sample of African-American women.

METHODS

Participants

This study was part of a large national survey on the psychological well-being of African-American women based on a collaboration between The University of Memphis Center for Community Health and the National Black Women's Health Project (NBWHP). The sampling consisted of 6,000 individuals from the NBWHP mailing list. A total of 1,152 names were eliminated because of wrong or duplicate addresses, or participants' indication that they were males and/or non-African Americans, resulting in a total of 4,848 eligible participants. A total of 1,821 completed surveys were received, a return rate of 38%. To be included in the analyses, participants had to have completed all items in the measures of interest (N=1,411), and reported a physician as their usual source of medical care. Approximately 5% (4.6%) were excluded because they indicated that a nurse practitioner or physician assistant was the usual person they saw for medical care, while 3.5% reported they did not visit a particular individual for medical care, and .2% reported didn't know/weren't sure.

Procedure

The survey was mailed to the selected individuals from the NBWHP mailing list, accompanied by a self-addressed and stamped envelope, a consent form, and a cover letter from NBWHP leadership. Participants also received a wallet calendar with the NBWHP logo as an incentive, in appreciation for their participation in the survey. In addition, the first 500 respondents received a luggage tag with the NBWHP logo.

Three waves of survey mailings were sent, and respondents were asked to return the survey within 2 weeks. After that time frame, a second survey was sent accompanied by a reminder letter to non-respondents. The third and final mailing was sent one month after the second follow-up to non-respondents. A panel of experts reviewed the survey instrument, and all survey procedures were pilot-tested prior to the formal study among 100 African-American women attending a local church.

Measures

Demographic Items

Age was classified into 5 categories (30 years or under, 31–40, 41–50, 51–60, and over 60). Education was measured as a continuous variable ("How many years of school have you completed?"). Yearly household income was classified into 3 categories (less than $20,000, $20,000–$39,000, and $40,000 and above). Marital status was classified into 3 categories (married or not married but living with an intimate partner, separated/divorced/widowed, and never married).

Center for Epidemiologic Studies Depression Scale (CES-D)[21]

This is a 20-item self-report questionnaire assessing depressive symptomatology. Respondents are asked to rate the frequency with which each symptom has occurred over the course of the past week. Ratings are made on a 4-point Likert scale ranging from rarely, or none of the time (less than one day), to most or all of the time (5–7 days). The potential range of scores is from 0 to 60, with higher scores indicating greater depressive symptomatology. A score of 16 or higher indicates positive screening for depression, and a patient with a score in this range should receive a recommendation for a more complete psychiatric assessment. Early validation studies indicated that the CES-D had high internal consistency, acceptable test-retest reliability, and good construct validity in both clinical and community samples.[22–23] The standard cut score of 16 and above have yielded a sensitivity of .95 and specificity of .70 in predicting Major Depressive Disorder in a sample of low-income women (primarily

Table 1. Physician-patient interaction questions

How would you rate the person you usually visit for medical care on the following items? (Excellent to Very Poor)* • The overall job that he/she is doing • The amount of knowledge and skill to treat your health issues • Really caring about you and your health • Personally spending enough time with you • Making a special effort to get you to explain your problems completely • Answering your questions honestly and completely • Making sure you understand what you have been told about your medical problems or medications • Keeping his/her medical fees reasonable
In general, how difficult do you find it to talk to your doctor? (Very Difficult to Not Difficult)
Have you ever had problems or needs which you would have liked to discuss with your doctor but did not because you or your doctor were uncomfortable about it? (Yes, No, Not sure)
Have you ever changed doctors because you were dissatisfied with him/her? (Yes, No, Not Sure)
Has your doctor ever made comments to you that were offensive or inappropriate? (Yes, No, Not Sure)

* Commonwealth Fund, 1993.[12]

African Americans) attending primary care clinics.[24]

Physician-Patient Interaction[12]

This is an 8-item questionnaire assessing provider-patient interaction that was developed and used as part of the Commonwealth Fund Survey on Women's Health. Respondents are asked to rate the interaction with their healthcare provider on a 5-point Likert scale ranging from excellent to very poor. The total score is divided by the total number of items, and can range from 1 to 5, with lower scores indicating greater provider-patient interaction. Participants were asked additional questions related to their relationship with their providers, which were also part of the Commonwealth Fund Survey on Women's Health, and these were analyzed individually. Table 1 displays the questions included in the survey. As previously mentioned, this study was limited to participants who identified a physician as their usual source of medical care.

Data Analysis

Descriptive statistics were used to generate a profile of the sample based on demographic variables and discrimination scores. Cronbach alpha was used to assess internal consistency of the discrimination and physician-patient interaction scale.

Hierarchical Regression Models were used to analyze the relationship between demographic variables and depression for physician-patient interaction. First, the relationship between demographic variables and perceptions of physician-patient interaction was assessed. Then a model was constructed to examine whether depression was uniquely related to physician-patient interaction, after controlling for significant demographic variables. Finally, a simplified model containing only the significant variables was constructed. Since income and age were categorical variables, they were dummy-coded before being entered into the regression models.

This procedure was followed for the overall physician-patient interaction scale, and also for 4 separate questions examining specific aspects of physician-patient interaction as described above. Few participants (N=12) reported that it was "very difficult" to speak with their doctors. Because of the small cell sizes, power would be reduced in statistical analyses. Therefore, this variable was dichotomized in 2, where participants who indicated that it was "somewhat" to "very difficult" were classified as reporting difficulty in speaking with their doctor, and individuals who reported "not very" to "not" difficult were classified as not having difficulty communicating with their doctor. The remaining response categories concerning specifics of the physician-patient relationships (reluctance to discuss problems with doctor, changing doctors due to dissatisfaction, and reports that doctors made offensive or inappropriate comments) asked participants to indicate yes, no, or don't know/not sure. Very few participants indicated they were unsure in answer to any of the questions (percentage ranged from .4% to 5.9% of participants indicating they were unsure), and they were not included in the analysis. Linear regression was used when the dependent variable was continuous, and logistic regression was used when the dependent variable was dichotomous.

RESULTS

Sample characteristics based on demographic and physician-patient interaction variables are presented in Table 2. The majority of women were between the ages of 41 and 50 years old (33.2%), and reported annual incomes of $40,000 and above (59.7%). The mean number of years of education completed for the total sample was 15.42 ± 2.35.

Both the physician-patient interaction and CES-D scale had high internal consistency (CES-D, alpha=.91; and physician-patient interaction, alpha=.94). The mean rating across the sample of physician-patient interaction was 1.94 (good). Table 2 displays the mean ± standard deviation of CES-D scores and mean ratings of physician-patient interaction by age, income, education, and marital status. Education was measured as a continuous variable

Table 2. Descriptive information for total sample

Variable	(*N*=1411) %	CES-D Mean (SD)	Interaction Mean (SD)
Overall sample		12.32 (10.45)	1.94 (.65)
Age			
30 years or under	9.6	14.73 (10.49)	2.01 (.62)
31–40 years	24.2	12.94 (10.42)	1.90 (.64)
41–50 years	33.2	11.74 (10.32)	1.95 (.64)
51–60 years	23.3	12.07 (10.91)	1.97 (.71)
Greater than 60 years	9.8	11.00 (09.44)	1.84 (.61)
Income			
Below $20,000	9.6	17.66 (12.58)	1.95 (.72)
Between $20,000–$39,000	30.7	13.18 (10.29)	2.01 (.65)
$40,000 and above	59.7	11.02 (09.83)	1.89 (.64)
Education			
High school or less	16.6	14.82 (10.85)	2.00 (.67)
Some college	16.4	12.91 (10.85)	1.90 (.65)
College degree	51.3	11.86 (10.21)	1.94 (.63)
Post college	15.7	10.57 (09.92)	1.92 (.69)
Marital status			
Married/living together	40.3	11.48 (09.98)	1.92 (.65)
Separated/divorced/widowed	33.4	12.39 (10.62)	1.95 (.67)
Never married	26.2	13.55 (10.90)	1.95 (.64)

and, therefore, its presentation as a categorical variable on Table 2 is to provide a more complete picture of how depression and physician-patient interaction were distributed across the demographic variables.

Approximately 12% of the sample reported that their physicians were difficult to talk to; 15% reported that they had problems or needs they did not discuss with their physician due to discomfort; 24.5% reported that their physician had made offensive or inappropriate comments; and a majority of women (63.1%) reported they had changed physicians because of dissatisfaction. About a third (30.9%) of the participants screened positive for depression (that is, CES-D scores of 16 or higher). Of these, 38.8% reported CES-D scores between 16 and 20, 38.5% had scores between 21 and 30, and 22.7% had scores above 30. Overall, younger women (ie, 30 years or younger), low income women, women with low educational attainment, and women who were never married, reported the highest average depression. While income, age, and education were all significantly related to depression, correlations were modest, ranging from −.08, to −.19.

Overall Physician-Patient Interaction—Linear Regression

In the first model, the only demographic variable significantly related to physician-patient interaction was income (R^2 change=.009, F=4.89, P=.008). In the model including demographics and depression, depression was significant, even after accounting for demographic variables. As displayed on Table 3, the final model included income and depression (R=.18, R^2=.032, AdJ R^2=.060; F=15.65, P<.001), with income accounting for .7% of the variance, and depression accounting for 2.5%. As depression increased, there was a significant decrease in ratings of physician-patient interaction (β= −1.11, 95% CI=1.06, 1.16). African-American women with incomes between $20,000 and $39,000 ($M$=1.88) reported significantly lower physician-patient interaction scores (B=−.078, 95% CI=−.175, −.026), compared to African-American women with annual incomes of $40,000 and above

Table 3. Final models for the relationship between demographic variables, CES-D, and Physician-Patient Interaction

Variable (*N*=1406)	B	95% CI
Income		
Below $20,000	−.035	−.231, .019
Between $20,000–$39,000	Reference	—
$40,000 and above	−.078*	−.175, −.026
Depression†	1.11*	1.06, 1.16

* Significant at P<.01.
† Beta reflects change of one standard deviation (10.45) in CES-D scale.

Table 4. Final models for examining the relationship between demographic variables, CES-D, and specific spects of physician-patient interaction

Variable	OR	95% CI
Difficulty talking with doctor (*N*=1402*)		
CES-D†	1.30‡	1.13, 1.50
Reluctant to discuss problems and needs with doctor (*N*=1402*)		
Age		
30 years or under	Reference	—
31–40 years	.561‡	.348, .905
41-50 years	.437‡	.273, .697
51–60 years	.446‡	.279, .738
Greater than 60 years	.202‡	.093, .442
CES-D	1.43‡	1.24, 1.65
Changed doctors because dissatisfied (*N*=1395*)		
Education	1.13‡	1.07, 1.18
CES-D	1.12§	.99, 1.27
Doctor made offensive or inappropriate comments (*N*=1398*)		
Education	1.13‡	1.08, 1.20
CES-D	1.17‡	1.03, 1.32

* Sample size varies for each dependent variable due to missing data or participants' responses that they were not sure.

† Odds ratio for CES-D reflects change of one standard deviation (10.45) in CES-D scale.

‡ Significant at $P<.01$.

§ Significant at $P<.05$.

Depressive symptomatology is also significantly associated with difficulty in talking to physicians, likelihood of discussing problems with physicians, hearing offensive or inappropriate comments from physicians, and the likelihood of changing physicians due to dissatisfaction.

(*M*=1.75). There were no significant differences for women in the less than $20,000 bracket, or the other income brackets (B=−.035, 95% CI=−.231, .019).

Specific Interaction Questions—Logistic Regression

Results of logistic regression models are shown in Table 4. None of the demographic variables were significantly related to difficulty in speaking with the physician. However, depression was significantly related to difficulty in speaking with physician, demonstrating that as the CES-D scores increased, so did the likelihood of women perceiving their physicians to be difficult to talk to (OR=1.30, 95% CI=1.13, 1.50).

Age was the only demographic variable significantly associated with reluctance to discuss problems with physicians. Again, depression was significantly associated with reluctance to discuss problems with physicians, even after accounting for the variance explained by demographic variables (depression chi-square=24.31, $P<.000$). All women over 30 years of age were less likely to report keeping problems and needs from their physician, compared to women who were 30 years of age and younger. In addition, as the CES-D scores increased, so did the likelihood of keeping needs and problems to oneself.

After controlling for demographics, depression was significantly associated with women reporting they had changed physicians. The final model included education and depression, each of which was uniquely, significantly associated with physician-patient interaction (education Wald chi-square=21.330, $P<.000$; depression Wald chi-square=4.17, $P=.04$). Education was significantly related to women reporting they had changed physicians. As years of education and CES-D scores increased, so did the likelihood of a woman reporting that she had changed physicians (education OR=1.13, 95% CI=1.07, 1.18, CES-D OR=1.12, 95% CI=.99, 1.27). Again even after controlling for the effects of education, depression was uniquely associated with reports of changing physicians (Wald chi-square=6.56, $P=.01$). Education and depression were also the only variables significantly related to reports that a physician had made offensive or inappropriate comments. The final model demonstrated that as years of education and CES-D scores increased, so did the likelihood of reporting that a physician made offensive comments (education, OR=1.14, 95% CI=1.08, 1.20, CES-D OR=1.17, 95% CI=1.03, 1.32).

DISCUSSION

Our results show that depressive symptomatology is significantly associated with physician-patient interaction, even after accounting for demographic variables. Depressive symptomatology is also significantly associated with difficulty in talking to physicians, likelihood of discussing problems with physicians, hearing offensive or inappropriate comments from physicians, and the likelihood of changing physicians due to dissatisfaction.

In a recent study among users of a large national health insurer, Keating and colleagues[25] found that, overall,

only 12% of patients considered changing physicians. This percentage, however, increased as the number of problems experienced with current physicians increased. The 3 most frequent problems cited by participants who changed their physicians were: 1) physicians' not providing answers that are understandable; 2) physicians' not taking enough time to answer questions; and 3) physicians' not giving enough medical information. Interestingly, the percentage of participants who changed physicians due to dissatisfaction was much larger in the present study (63.1%). This discrepancy may be due to a variety of factors. First, participants in the Keating and colleagues' study were covered under an insurance plan. Second, 78% of participants were Whites. Given previous findings[14] that minority populations tend to endorse more difficulties in communicating with their providers than do Whites, that they perceive their visits with physicians to be less participatory than do Whites,[15] and that African-American women who are depressed tend to report more distrust than do their White counterparts,[26] it is not surprising that they may be more likely to change physicians due to dissatisfaction.

Some of the demographic variables (age, income, education) were significantly associated with physician-patient interaction, difficulty in speaking with physician, reluctance to discuss problems with physician, changing physicians due to dissatisfaction, and reports that a physician had made offensive or inappropriate comments. Nonetheless, depressive symptomatology was significantly associated with these dependent variables, even after accounting for demographic variables. Although our findings do not provide information on whether poor physician-patient interaction leads to depression, depression leads to poor physician-patient interaction, or whether this relationship is reciprocal, there are a number of potential explanations for these findings. First, we can speculate that depressed patients are more likely to experience cognitive distortions than non-depressed patients, which can lead to a misinterpretation of the physician-patient interaction. Second, although prevalence rates of depressive disorders are high in primary care settings, it has been estimated that primary care providers fail to detect and treat as many as 35% to 70% of patients with depressive disorders.[27–30] Further, it has been shown that physicians fail to solicit patients' agendas and tend to redirect patients' initial descriptions of their concerns.[31] Therefore, the poor physician-patient interaction rated by depressed patients may be due to unrecognized depression by physicians.

Although the results indicate that depressive symptomatology may be an important factor to consider in the physician-patient interaction among African-American women, this study has some limitations that deserve mention. First, the obtained information was based on a self-report questionnaire. Second, the response rate for this survey was 38%. Although this response rate is consistent with what is expected in large-scale studies in which no "warm" contact is made,[32] the results should be interpreted with caution.

The third limitation pertains to a potential lack of generalizability of the results. Although this represents a national sample of African-American women, this sample had an over-representation of women with annual incomes of $40,000 and above and high educational attainment. Therefore, these findings may be more applicable to this segment of the African-American female population. However, given the large size of the sample, this issue may not be of great concern, since more than 100 women were represented in the lowest income bracket, and more than 200 women had high school education or less. The overrepresentation of women with higher educational attainment and income may be due to the fact that the sample was obtained through the National Black Women's Health Project, which promotes advocacy health education, research, and leadership development, and whose participants tend to be more affluent and educated than the general population. Another potential explanation is that women who returned the surveys were more likely to be more affluent and educated than women who did not return the surveys.

Fourth, the nature of the study was retrospective. Although the present study sheds light on the relationship between depressive symptomatology and physician-patient interaction among African-American women, this study does not provide information on the direction of this relationship. It is has been established that cognitive distortions are some of the features of depression. On the other hand, stressful situations (eg, negative interactions with the healthcare system) can contribute to onset or exacerbation of depressive symptomatology. Future prospective, longitudinal studies are required to adequately address this issue among African-American women.

Fifth, although the physician-patient interaction assessment used in the study has shown adequate psychometric validity, it does not reflect the quality of participants' encounters with their physicians. That is, it combines participants' ratings on different elements of the physician-patient interaction. Therefore, future studies should explore such factors through qualitative approaches in order to further validate this measure. Sixth, this study did not include assessment of physical health status, presence of chronic illnesses, and physicians' gender and/or ethnicity, which could potentially be associated with report of depressive symptomatology and/or physician-patient interaction.

Despite the drawbacks mentioned above, the present study contributes unique findings to the literature pertaining to the association between depressive symptomatology and physician-patient interaction among African-Ameri-

can women. Although future studies are needed to explore the direction of these associations, as well as the quality of physician-patient interaction, these findings have important practical implications for healthcare providers. Healthcare providers should be aware that patients with depressive symptoms are more likely to be dissatisfied with their interactions with their providers, are less likely to discuss problems and needs, tend to experience difficulties in speaking with providers, are more likely to report that providers have made offensive or inappropriate comments, and are more likely to change providers. This has important implications for the quality and continuity of care that African-American women receive.

ACKNOWLEDGMENTS

This study was supported by a grant from the Memphis Alliance for Public Health Research at The University of Memphis (Memphis, Tenn). This study was approved by the University of Memphis Institutional Review Board, and a passive informed consent was provided to all participants.

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Acquisition of data: Scarinci, Beech
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Acquisition of funding: Scarinci, Beech
Administrative, technical, or material assistance: Scarinci, Beech
Supervision: Scarinci, Beech