

Discrimination in Health Care and CAM Use in a Representative Sample of U.S. Adults

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Abstract

Objectives: Discrimination in medical settings may influence patient attitudes about health care and health-seeking behaviors. Patients who experience discrimination may seek alternative means of health care, including use of complementary and alternative medicine (CAM). The objective of this study was to examine the relationship between discrimination in health care and CAM use.

Design: Data come from the 2001 Health Care Quality Survey (HCQS), which used a multistage sampling design with random-digit dialing, oversampling telephone exchanges with higher densities of African-American, Hispanic, and Asian households. The 2001 HCQS sample consisted of 6722 adults living in the continental United States. To correct for the disproportionate sample design, data were adjusted using sample weights to make the results representative of the U.S. population 18 years and older. Present analyses were limited to 6008 respondents who had visited a doctor or clinic or had been admitted to the hospital in the last 2 years.

Outcome measures: Outcome measures were CAM use, practitioner-provided CAM use, and herbal medicine use.

Results: In adjusted logistic regression analyses, discrimination in health care was significantly associated with use of herbal medicines alone (adjusted odds ratio=1.47, confidence interval: 1.05, 2.04), but not with use of practitioner-provided CAM (i.e., use of acupuncture, chiropractor, traditional healer or herbalist, alone or in combination with herbal medicines).

Conclusions: Further research is needed to examine the direction of the relationship between discrimination and CAM use and differences by CAM modality.

Introduction

THE IMPACT OF DISCRIMINATION in health care on attitudes and health care utilization is an important topic in health disparities research.¹ A growing body of research, largely focused on racial/ethnic discrimination, suggests that discrimination experienced in medical encounters may affect physical and mental health, treatment adherence, health care utilization, and trust in providers, among other outcomes.^{2–5} Complementary and alternative medicine (CAM), which can be used for prevention and treatment and in combination with or as a substitute for conventional medical care, may be an appealing alternative for individuals who have had negative experiences when seeking or obtaining care within the Western biomedical health care system. Understanding the relationship between discrimination in health care and CAM

use may inform research on disparities in health care utilization and identify behavioral responses to discrimination that could be targeted in future interventions.

The term “CAM” refers to a group of diverse medical systems, practices, and products that are not generally considered part of biomedicine.⁶ According to the 2007 National Health Interview Survey (NHIS), approximately 38% of U.S. adults use some form of CAM, with greatest use among women and those with higher levels of education and higher incomes.⁷ Further analysis of NHIS data shows that CAM use differs based on race, socioeconomic status, and insurance coverage.⁷ Differences in CAM use based on sexual orientation have also been observed, with high use among lesbian women in particular.^{8–10} Having unmet medical needs is associated with substantially elevated CAM use, suggesting that individuals may turn to CAM when faced

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with barriers to accessing conventional care.¹¹ As such, medically marginalized populations may seek CAM as an alternative to conventional care.

Previous studies have demonstrated associations between discrimination in health care and CAM use.^{9,10,12} In a sample of black Americans, racial discrimination was associated with a higher likelihood of using any type of CAM as well as using more modalities of CAM.¹² In a study of women's health conducted by the Chicago Lesbian Community Cancer Project, lesbian sexual orientation and perceived discrimination in health care settings were significant predictors of CAM use.¹⁰ Differing definitions of CAM across studies, however, make it difficult to speculate about the nature of the relationship between perceived discrimination in health care settings and CAM use. The purpose of this study was to examine the association between reports of discrimination in health care and different types of CAM use in a nationally representative sample.

Materials and Methods

Design and participants

Data were analyzed from the 2001 Health Care Quality Survey (HCQS), a telephone survey sponsored by the Commonwealth Fund. The HCQS sample consisted of 6722 adults living in the continental United States. Data collection was undertaken between April 30 and November 5, 2001. The survey used a multistage sampling design with random-digit dialing, oversampling telephone exchanges with higher densities of African-American, Hispanic, and Asian households. Survey details are available elsewhere.¹³ Institutional Review Board approval was not necessary for the present study because it involved analysis of publicly available, de-identified data.

Measures

To measure discrimination in health care, responses to questions about unfair and disrespectful treatment by providers were used. Specifically, respondents who had visited a doctor or clinic or had been admitted to the hospital in the last 2 years were asked four questions. The stem of each question was the following: "Thinking about all of the experiences you have had with health care visits in the last 2 years, have you ever felt that the doctor or medical staff you saw judged you unfairly or treated you with disrespect because of [insert]?" Respondents were asked the question with each of the following items, which were rotated: "your ability to pay for the care or the type of health insurance you have," "how well you speak English," "your race or ethnic background," and "your gender." Because the frequencies of affirmative responses for individual items were low, responses were combined to create a dichotomous measure of discrimination in health care, with "yes" indicating affirmative responses to one or more of these items and "no" indicating no affirmative responses. Cases coded as "don't know/refused" for all four discrimination items were coded as missing for this variable.

Respondents were also asked whether, in the last 2 years, they had used (1) herbal medicines; (2) acupuncture; (3) a chiropractor; or (4) a traditional healer such as a *Curendero*, or an herbalist. One dichotomous "any CAM" variable was

created that combined responses for all four CAM modalities such that "yes" indicated an affirmative response for at least one modality, and "no" indicated no affirmative responses. Because herbal medicines can be self-prescribed, the authors also examined use of herbal medicines only (i.e., not in combination with other measured CAM modalities) separately from use of the practitioner-provided CAM modalities. A dichotomous measure of herbal medicine use was created where "yes" indicated an affirmative response to herbal medicines only; "no" indicated either a "no" response to herbal medicines or a "yes" response to herbal medicines in conjunction with affirmative responses to one or more practitioner-provided forms of CAM. To create a measure of practitioner-provided CAM, responses for the last three CAM modalities were combined into one dichotomous measure using a similar procedure as described for creating the "any CAM" variable. Individuals who used at least one practitioner-provided CAM modality were coded as "yes" regardless of whether they used herbal medicines; "no" indicated no affirmative responses for the use of practitioner-provided CAM modalities. Cases coded as "don't know/refused" for all four CAM items were coded as missing for the CAM use variables.

Data analysis

Analyses were conducted using Stata version 11. Data were weighted to account for the survey's disproportionate sampling design, making the results representative of the U.S. population aged 18 years and older. Because the questions about discrimination in health care were only asked of respondents who had visited a doctor or clinic or had been admitted to the hospital in the last 2 years, the analyses were limited to this subsample of 6008 respondents. For all analyses, cases with missing data were excluded; thus, sample sizes vary. Frequency distributions were generated for the discrimination and CAM variables, as well as all covariates. Logistic regressions were conducted to examine the unadjusted associations between discrimination in health care and the three measures of CAM use (use of any CAM, use of practitioner-provided CAM, and use of herbal medicines only). Multiple logistic regression analyses were performed to determine the associations between discrimination in health care and the measures of CAM use adjusting for age, gender, race/ethnicity, place of birth, educational attainment, rurality, current census region, work status, marital status, insurance status, and unmet medical needs. A significance level of 0.05 was set for all analyses.

Results

As shown in Table 1, the majority of respondents who had visited a doctor, clinic, or hospital in the past 2 years did not report experiencing discrimination in health care during that period. One third reported some type of CAM use, with 15% reporting use of herbal medicines only and 19% reporting use of one or more of the practitioner-provided CAM modalities. In other analyses (data not shown), 48% of respondents using practitioner-provided CAM also reported using herbal medicines.

In unadjusted analyses, discrimination in health care was significantly associated with use of any CAM (odds ratio [OR]=1.73, CI: 1.37, 2.18), practitioner-provided CAM

TABLE 1. CHARACTERISTICS OF INDIVIDUALS WHO HAVE VISITED A DOCTOR, CLINIC, OR HOSPITAL WITHIN THE PAST 2 YEARS (N=6008)

Characteristic	All n (%)
Age ^a	
18–29	1290 (19.8)
30–39	1311 (19.5)
40–49	1210 (21.1)
50–64	1210 (21.3)
65 and older	898 (17.1)
Female	3854 (57.3)
Race/ethnicity	
White, non-Hispanic	3205 (70.2)
Black, non-Hispanic	947 (11.1)
Hispanic	969 (9.4)
Asian, non-Hispanic	521 (3.4)
Hawaiian/Pacific Islander, non-Hispanic	40 (0.6)
American Indian/Alaska Native, non-Hispanic	37 (0.9)
Other/mixed race, non-Hispanic	205 (3.1)
Undesignated	84 (1.5)
Foreign-born ^a	1273 (12.6)
Education ^a	
High school, incomplete	712 (14.0)
High school, diploma	1507 (30.5)
Some college or technical	1631 (28.0)
College graduate	2125 (27.1)
Rurality ^a	
Urban	2788 (31.7)
Suburban	2528 (47.8)
Rural	691 (20.5)
Census region	
Northeast	1039 (18.9)
Midwest	780 (22.6)
South	1731 (37.8)
West	2458 (22.7)
Working ^a	3981 (65.1)
Married ^a	3039 (61.1)
Covered by insurance ^a	5225 (87.9)
Unmet medical needs ^a	1223 (20.5)
Discrimination in health care (overall) ^a	751 (11.2)
Based on health insurance/ability to pay ^a	486 (7.7)
Based on ability to speak English ^a	162 (1.9)
Based on race/ethnicity ^a	244 (3.1)
Based on gender ^a	225 (3.4)
Any CAM use ^a	1995 (33.6)
Herbal medicine use only ^a	902 (15.2)
Practitioner-provided CAM ^a	1093 (18.6)
Acupuncture ^a	237 (2.7)
Chiropractor ^a	865 (16.0)
Traditional healer ^a	198 (2.6)

All Ns are unweighted; all percentages are weighted.

^aData were missing for some cases; missing data were excluded from analysis. Data were missing for less than 2% of respondents on any variable.

CAM, complementary and alternative medicine.

(OR=1.42, CI: 1.08, 1.86), and herbal medicines only (OR=1.65, CI: 1.23, 2.23). As presented in Table 2, once adjusted for covariates, this pattern changed. Respondents who reported discrimination in health care had significantly greater odds of using herbal medicines only (i.e., not in

combination with practitioner-provided CAM) than did those who had not reported discrimination. In contrast, discrimination in health care was not significantly associated with practitioner-provided CAM in the multivariate model.

Discussion

This study adds to the limited research on the relationship between discrimination in health care and CAM use.^{9,10,12} These findings indicate that discrimination was not associated with use of select practitioner-provided CAM modalities once adjusted for sociodemographic characteristics, health insurance status, and having unmet health needs. In this study, discriminatory experiences in health care and use of herbal medicines were linked. This finding is consistent with those of the study of CAM use among heterosexually and lesbian identified women, in which women who reported perceived discrimination were more likely to report use of herbs and homeopathy than those who did not perceive discrimination.¹⁰ One possible explanation for these findings is that individuals who experience discrimination in conventional medical care settings may utilize herbal medicines as an alternative to interacting with health care providers—conventional or CAM.

Herbal medicines are the most commonly used CAM therapy (17.7%) of the 36 CAM therapies examined in the 2007 NHIS.⁷ Although many CAM modalities are used in conjunction or consultation with conventional or alternative practitioners, analysis of 2002 NHIS data suggested that herbal medicines are most often self-prescribed; only 5.2% percent of herbal medicine users reported consulting with a CAM provider about herbs or natural products, and only 33.4% discussed their use of herbal medicines with a physician or other conventional medical provider.¹⁴ Using herbal medicines without consulting CAM providers and discussing with conventional providers is concerning because interactions can occur between herbal medicines and pharmaceutical drugs. If patients self-prescribe herbal medicines as an alternative to interacting with health care providers, they may be at risk for serious interactions between herbal medicines and conventional treatments. Further research on discrimination in health care and use of herbal medicines is warranted.

Because of the cross-sectional nature of the data, the causal relationship between experiences of discrimination and use of CAM remains unknown. In order to better understand this association and its implications for public health and medical care, longitudinal studies are needed. Furthermore, this study highlights the importance of not grouping all CAM modalities together. The factors that predict use of one type of CAM may differ from those that predict other CAM modalities, as shown here. Future studies examining the relationship between discrimination and CAM use should distinguish between those CAM modalities that require interaction with health care providers from those that do not; such distinctions could provide greater insights into the impact of discrimination on health care preferences and practices.

The HCQS data provided an opportunity to examine the relationship between discrimination in health care settings and CAM use in a nationally representative sample. The data, however, present three main challenges. First, the data

TABLE 2. ADJUSTED LOGISTIC REGRESSION ANALYSIS OF USE OF ANY CAM, PRACTITIONER-PROVIDED CAM, AND HERBAL MEDICINES ONLY: 2001 HEALTH CARE QUALITY SURVEY

Characteristic	Any CAM adjusted OR (95% CI) (N=5720)	Practitioner-provided CAM adjusted OR (95% CI) (N=5720)	Herbal medicines only adjusted OR (95% CI) (N=5653)
Age			
18–29	Referent	Referent	Referent
30–39	1.00 (0.77, 1.31)	1.24 (0.90, 1.72)	0.78 (0.49, 1.10)
40–49	1.28 (0.98, 1.67)	1.61** (1.17, 2.22)	0.85 (0.60, 1.19)
50–64	1.11 (0.85, 1.45)	0.96 (0.68, 1.34)	1.25 (0.89, 1.75)
65 and over	0.69* (0.49, 0.97)	0.74 (0.48, 1.14)	0.74 (0.47, 1.17)
Female	1.00 (0.84, 1.19)	0.85 (0.69, 1.05)	1.21 (0.95, 1.53)
Race/ethnicity			
White, non-Hispanic	Referent	Referent	Referent
Black, non-Hispanic	0.58*** (0.45, 0.74)	0.52*** (0.37, 0.72)	0.78 (0.57, 1.09)
Hispanic	0.70* (0.53, 0.94)	0.76 (0.54, 1.07)	0.73 (0.49, 1.09)
Other	0.98 (0.70, 1.37)	0.92 (0.62, 1.39)	1.07 (0.70, 1.64)
Foreign-born	0.82 (0.63, 1.08)	1.02 (0.73, 1.42)	0.70* (0.49, 0.99)
Education			
High school incomplete	Referent	Referent	Referent
High school diploma	1.08 (0.80, 1.46)	1.15 (0.78, 1.67)	0.94 (0.63, 1.42)
Some college/tech school	1.33 (0.98, 1.80)	1.38 (0.95, 2.01)	1.09 (0.73, 1.64)
College graduate	1.31 (0.96, 1.79)	1.09 (0.74, 1.60)	1.41 (0.93, 2.12)
Rurality			
Urban	Referent	Referent	Referent
Suburban	0.98 (0.81, 1.19)	0.97 (0.77, 1.24)	1.00 (0.79, 1.28)
Rural	1.01 (0.78, 1.30)	1.22 (0.90, 1.66)	0.80 (0.57, 1.12)
Census region			
Northeast	Referent	Referent	Referent
Midwest	0.81 (0.62, 1.07)	0.64* (0.46, 0.90)	1.20 (0.83, 1.71)
South	0.78 (0.61, 1.00)	0.70* (0.52, 0.95)	1.00 (0.72, 1.39)
West	1.17 (0.91, 1.51)	1.11 (0.82, 1.49)	1.15 (0.81, 1.62)
Working	1.23 (0.99, 1.53)	1.12 (0.85, 1.46)	1.25 (0.94, 1.66)
Married	0.92 (0.77, 1.10)	1.04 (0.84, 1.28)	0.83 (0.66, 1.04)
Covered by insurance	0.75* (0.57, 0.98)	0.78 (0.57, 1.08)	0.83 (0.59, 1.17)
Unmet medical needs	1.41** (1.14, 1.74)	1.10 (0.85, 1.41)	1.57** (1.21, 2.05)
Discrimination in health care	1.52** (1.17, 1.98)	1.30 (0.95, 1.76)	1.47* (1.05, 2.04)

Data were weighted.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

CAM, complementary and alternative medicine; OR, odds ratio; CI, confidence interval.

were collected in 2001, and patterns in discrimination and CAM use may have changed since then. Second, measures of discrimination and CAM use were limited by the items included in the survey. The discrimination measure focused on unfair and disrespectful treatment by a health care provider and did not include other aspects of discrimination in health care (e.g., less courteous treatment, poorer service). In addition, the HCQS asked about health care discrimination based on ability to pay or type of insurance, ability to speak English, racial/ethnic background, and gender. Other types of discrimination, including discrimination due to stigma associated with CAM use, were not assessed. Furthermore, the CAM measure included some CAM modalities (i.e., herbal medicines, acupuncture, chiropractor, and traditional healer or herbalist) but did not include others (e.g., meditation, massage, homeopathy, vitamins and minerals, and other natural products). Third, as noted above, the data are cross-sectional. Another important limitation of this study is that because few participants reported having experienced discrimination, discrimination items were combined and thus

the relationship between specific types of discrimination (e.g., gender, race/ethnicity) and CAM use was not examined. Previous studies have similarly examined the relationship between discrimination in health care overall and CAM use.^{9,10} Research that examines the association between CAM use and different types of health care discrimination is needed.

Conclusions

This study provides evidence that discrimination in health care is associated with use of CAM. The observed association is with the use of CAM remedies that can be self-administered as opposed to utilization of CAM health care services. These results suggest that the relationship between health care discrimination and CAM use depends on CAM modality. Given the limited data on these topics, this study provides direction for future research.

Disclosure Statement

No competing financial interests exist.

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