

# AN ASSESSMENT OF HOME REMEDY USE BY AFRICAN AMERICANS

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This analysis represents the first national look at family and individual use of home remedies by African Americans. The purpose is to examine home remedy usage by African-American individuals and their families and assess the relationship between sociodemographic characteristics and home remedy usage for African-American families and African-American individuals. Using logistic regression, a secondary analysis of the National Survey on Black Americans (NSBA) data (N = 2107) was conducted to examine factors associated with home remedy use. Multivariate analysis indicated that parent's education, importance of religion, living with a grandparent, and living in a rural area were associated with families' use of home remedies. Age, gender, living with a grandparent, education, and geographic region were associated with individual home remedy use.

The results of this research may provide insight to health care practitioners in their challenge of appropriately integrating self-care practices (i.e., home remedy use) and the use of the formal health care system among the patients that utilize both "scientific" and "folk" medical systems. When possible, treatment plans should be adapted to consider patients' demographics, health beliefs, and self-care practices. Health care providers should encourage patient and family involvement and dialogue regarding therapeutic approaches. As more information becomes available, health care practitioners will be better able to ascertain the possible health consequences of concurrent usage of home remedies and prescription drug therapies. (*J Natl Med Assoc.* 2000;92:341-353.)

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**Key words:** alternative medicine ♦ self-care  
♦ folk medicine ♦ home remedy

Physicians and other health care practitioners who serve patients of socioeconomic or ethnic groups different from their own sometimes fail to realize the extent to which diverse medical ideas and practices permeate the lives of their patients

and influence behavior with respect to illness.<sup>1</sup> Although a vast amount of literature is available relevant to the use of drugs and medical services by various ethnic groups, health care personnel seldom gain systematic knowledge of folk medical practices.<sup>1-4</sup> Traditional medical dogma has typically excluded folk remedies, and attempts at integrating scientific and folk medical systems have been limited.

A patient's folk medicine beliefs and practices may influence their relationship with a health care practitioner. The lack of awareness (of folk remedy use) by health care practitioners may interfere with the establishment of an effective therapeutic rela-

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tionship.<sup>1</sup> Health care practitioners may become impatient when patients refuse to follow instructions or cooperate in the treatment process. Moreover, even the health care practitioners who are concerned about folk medicine beliefs and practices may find it difficult to obtain information from patients about self-medication behaviors. Some believers in folk practices are reluctant to discuss their self-medication practices and beliefs with health care providers for fear of being belittled, misunderstood, and labeled ignorant.<sup>1,5</sup>

Many ethnic minority patients utilize both “scientific” and folk medical systems. The use of home and herbal remedies by some specific ethnic groups has been well documented.<sup>1,4,7-9</sup> Additional research is needed to determine the prevalence of home remedy use by ethnic groups taking into consideration all the variations between ethnic groups and the regional variation within groups. Factors that can be used to predict use and methods to encourage patients to reveal use of these remedies to health care practitioners also need to be explored. This analysis represents the first national analysis of family and individual use of home remedies by African Americans. In this study, we attempted to determine the prevalence of home remedy use and explore sociodemographic factors that may be used to predict home remedy use.

Although empirical research provides evidence that some African Americans view self-care practices such as taking home remedies as a viable option and, in some cases, the only option for care, information needed to evaluate home remedy use among African Americans is not readily retrievable, available, or disseminated.<sup>10</sup> Two national surveys indicate that the use of home remedies is common.<sup>11,12</sup> In a 1983 survey of the U.S. population, 14% of the respondents indicated they used home remedies to initially treat health problems, whereas 9% called or went to a doctor or dentist, 11% used a prescription medication available in the home, 35% used a nonprescription drug, and 37% did not treat the problem.<sup>11</sup> In a similar survey conducted in 1992, the researchers found that 16% of the respondents reportedly used a home remedy, 17% called or went to a doctor or dentist, 13% used a prescription medication already in the home, 38% used a nonprescription drug, and 30% did not treat the problem.<sup>12</sup> Although conducted on a national level, these surveys did not include a representative sample of African Americans, which suggests that fur-

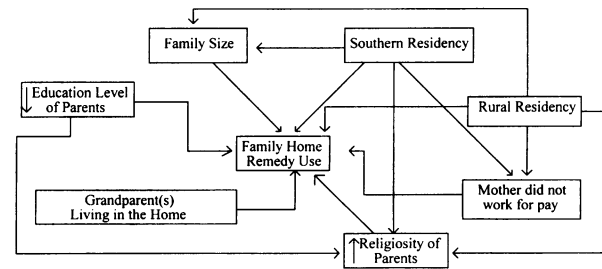


Figure 1. Theoretical relationships between family home remedy use and selected variables.

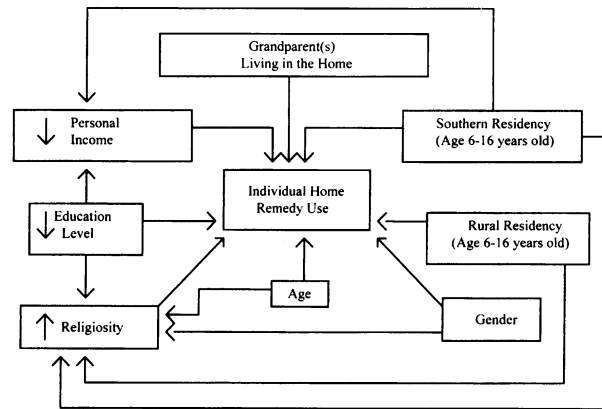


Figure 2. Theoretical relationships between individual home remedy use and selected variables.

ther examination of the use of home remedies by this segment of the U.S. population is warranted. The purpose of this study was to examine home remedy use by African-American individuals and their families and assess the relationship between sociodemographic characteristics and home remedy usage for African-American families and individuals.

**THEORETICAL MODELS**

Based on a review of the literature, Figures 1 and 2 were developed as models of the theoretical relationships expected between the respondent’s family and the respondent’s home remedy use and socio-demographic variables. After the models were developed, the data were analyzed to determine if the theoretical models were supported. The effect of family home remedy use on individual home remedy use could not be determined because of a lack of independence in the wording of the survey questions.

The anticipated relationships by the respon-

dent's families are indicated in Figure 1. We expected to find that the educational level of the parents was related to home remedy use, and importance of religion. We also expected rural residency, family size, and whether or not the mother worked for pay to have some influence on home remedy use. These factors may affect socioeconomic status of the family and the ability to pay for health care services. Additionally, southern residency was expected to affect home remedy use. Studies have shown that African Americans who were born in the South are more likely to use home remedies.<sup>13,14</sup> A grandparent residing in the home while the respondents were growing up was expected to influence the family's use of home remedies. Previous research supports the assumption that information about home remedy use is passed on by word of mouth and may be related to living with a grandparent.<sup>8,15</sup> Earlier studies indicate that the use of home remedies by families is associated with a decreased educational level of the parent<sup>13,14,16</sup> and increased importance of religion.<sup>7,13,15,17</sup> Region of residency has previously been found to be positively associated with family home remedy use.<sup>13-15</sup> It has been reported previously<sup>13,14</sup> that rural residency is positively associated with family use of home remedies. In some cases, self-care practices learned in the South have been maintained and combined with mainstream medicine.<sup>18</sup> However, in a survey of the home remedies used and/or recommended by 50 elderly adults, Boyd et al.<sup>15</sup> found that the respondents were evenly divided between those who spent their childhood years in large cities, those who lived in small towns or suburbs, and those who lived on farms or in rural areas. An association between family size and home remedy use has not been previously reported but was added to the model, because we postulated that it may be related to decreased socioeconomic status of the family, decreased access to the organized health care system, and increased use of home remedies.

We expected to find that individual home remedy use was related to lower educational level, which may influence personal income and importance of religion, and personal income may be influenced by southern residency. The assumption that home remedy users were more likely to have a lower educational level is supported by previous research.<sup>13,14</sup> We hypothesized that importance of religion may have a direct effect on home remedy use and importance of religion may be influenced by age, gen-

der, and by rural and southern residency, especially early childhood residency. We also hypothesized that home remedy use was influenced by an elderly relative (e.g., a grandparent) residing in the home while the child was growing up. Previous research shows that information about home remedy use was passed on by word of mouth, frequently to female family members.<sup>7,15</sup>

Earlier reports indicate that home remedy use is positively associated with decreased socioeconomic status.<sup>1,13,15,19</sup> However, recent studies found that this trend may also be changing in regard to the use of home remedies and other alternative therapies.<sup>20,21</sup> These studies report that users of alternative or unconventional therapies are more likely to be educated and have higher than average incomes. Expectations of gender differences in home remedy use are consistent with previous work indicating that women are frequently the family caregivers and the healing role is passed from mother to daughter.<sup>13</sup> Previous research has found that home remedy users were often older adults.<sup>8,15</sup> However, there is no strong empirical support for the older user theory. In a study by Stewart,<sup>14</sup> the average age of people who visited African-American healers was 51 years. Moreover, Banahan and Frate<sup>16</sup> found that home remedy use was not related to age.

## METHODS

### Subjects

A secondary analysis was conducted of the data from the National Survey of Black Americans (NSBA), a nationally representative cross-sectional sample of 2107 adult (18 years old and older) African Americans living in the continental United States in 1979 and 1980. A more complete description of the sampling procedure and a copy of the survey instrument can be found in previous work.<sup>22,23</sup>

### Procedures

In this analysis, "users" of home remedies were those respondents who indicated they used home remedies all the time or sometimes, whereas "non-users" were those respondents who indicated that they never use home remedies. The data were analyzed from two perspectives: use of home remedy by the respondent's families and use of home remedies by the respondent. Formatting of the question regarding individual home remedy use made the an-

**Table 1. Variables Used in Data Analyses**

Individual Home Remedy Use	Family Home Remedy Use
Age	Family income
Gender	Family size
Educational level	Mother's educational level
Living with a grandparent	Father's educational level
Personal income	Importance of religion
Importance of religion	Living with a grandparent
Rural residency	Rural residency
Geographic region	Mother worked for pay
	Geographic region

answer to the question dependent on a positive response to the question "Did your family ever use any home remedies to cure illness while you were growing up?" Respondents whose families did not use home remedies while they were growing up may have been using home remedies when the survey was done, and their use could have been missed. Variables used in the analysis are listed in Table 1, and the specific questions used to generate the variables are available from the authors upon request. The data were coded using the U.S. Census designations of dividing the United States into four regions: North East, North Central, South, and West.

### Data Analysis

The null hypothesis of no association between the independent variables and the dependent variable, families' use of home remedies and individuals' use of home remedies, was examined by simple logistic regression using SPSS statistical software (SPSS Inc., Chicago, IL). The odds ratios were evaluated to determine the association and magnitude of the association between the independent variables and the dependent variables.

Based on theoretical and empirical support, variables were hypothesized to influence home remedy use. The process of variable selection and model building was based on the recommendations of Hosmer and Lemeshow.<sup>24</sup> First, bivariate analysis of the independent variables with the dependent variables was conducted using logistic regression analysis. Independent variables displaying an insignificant association with the dependent variable were eliminated from further analysis. Variables having an odds ratio significantly different from the number one were added to the multivariate model. Second, multivariate analysis was conducted to explain

home remedy use as a function of all of the significant independent variables.

## RESULTS

### Sample Characteristics

In the sample of the respondents who answered the question regarding home remedy usage, 69.6% reported that their families used home remedies and 35.4% reported that they used home remedies. Of the preparation used, 68.2% were home remedies or herbal preparations, 15.1% were nonprescription drugs, and 16.7% could not be placed into one of the aforementioned categories and were classified as "other." The classifications of the preparation were based on the definition of home remedies and herbal products developed by Boyd et al.<sup>15</sup>

The demographic data for the respondents are shown in Table 2. As indicated in the table, 29.6% of the 2107 respondents were less than 30 years of age and 16.1% were 65 years of age or over. Only 37.8% of the sample were men. With regard to education, almost one half of the respondents (46.3%) had less than a high school education, whereas 8.7% graduated from college. Approximately 40% of the respondents reported an income of less than \$5000, and only 6.1% reported an individual income over \$20,000 (based on 1978 dollars). The most prevalent marital status was married (41.1%). Over one half of the respondents were Southern residents (53.4%) and few (5.9%) resided in the West. Approximately eight out of ten (79.0%) respondents resided in urban areas.

The odds ratios and associated 95% confidence interval for the study data are presented in Tables 3–6. The information in the tables describes the bivariate and multivariate relationships between family characteristics and individual characteristics and use of home remedies. The tables also show the bivariate and multivariate relationships between home remedy use and each of the independent variables categorized as family characteristics and individual characteristics by displaying the beta coefficient, the odds ratio, and confidence interval derived from the logistic regression analyses. As displayed in the tables, the odds ratio of 1 is indicative of the reference category from which the other categories were compared.

### Family's Use of Home Remedies

From the bivariate analysis (Table 3), the following variables were found to have a significant asso-

Table 2. Respondent Demographics

Variable	Number (n)	%
Age (years)		
18–29	629	29.6
30–39	433	20.4
40–54	470	22.1
55–64	251	11.8
65–74	230	10.8
75–84	100	4.7
85+	12	.6
Gender		
Male	797	37.8
Female	1310	62.2
Education level		
0–11 yr	919	46.3
High school diploma	650	30.8
Some college	334	15.9
College degree	184	8.7
Personal income		
\$0–4,999	839	39.8
\$5,000–9,999	501	23.8
\$10,000–19,999	417	19.8
\$20,000+	129	6.1
Marital status		
Married	866	41.1
Divorced	245	11.6
Separated	207	9.8
Widowed	305	14.5
Never married	467	22.2
Common law	11	0.5
Geographic region		
North East	391	18.6
North Central	467	22.2
South	1125	53.4
West	124	5.9
Rural residency		
Nonrural	1665	79.0
Rural	442	21.0

ciation with families' use of home remedies: family size, mother's education, father's education, importance of religion to the family, living with grandparent, living in a rural area and geographic region of the country. For instance, in the case of family size, families with 1 to 3 children were 35.4% (odds ratio [OR] = 0.65, 95% confidence interval [CI] = 0.511

to 0.82) less likely to use home remedies than were families with 7 to 20 children. The bivariate analysis also showed that individuals living in the Northeast region of the United States were 33.1% (OR = 0.67, 95% CI = 0.52 to 0.85) less likely to report that their families used home remedies than were people living in the South. Family income and whether their mother worked for pay were not significant, and the variables were excluded from further analysis. As stated, all significant variables were included in the full model. The equation used to express the relationship between the dependent variable and the independent variables is as follows:

$$\text{Logit}(Y) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7$$

where:  $\beta_0$  = constant;

Y = family's home remedy use (dependent variable);

$\beta_1 \dots \beta_k$  = beta coefficients for the associated independent variables;

$X_1 \dots X_k$  = independent variables;

$X_1$  = family size;

$X_2$  = mother's education;

$X_3$  = father's education;

$X_4$  = importance of religion to the family;

$X_5$  = living with a grandparent when less than 16 years of age;

$X_6$  = living in a rural area;

$X_7$  = geographic region of the country.

Following development of the full multivariate model, the variables were evaluated for significance. As shown in Table 4, the results of the logistic regression analysis indicate that, when all significant variables from the bivariate analysis were included in the model, father's education, importance of religion to the family, living with a grandparent, and living in a rural area were found to be significant at the 0.05  $\alpha$  level.

Mother's education and father's education were significantly associated with families' use of home remedies. More specifically, families where the father had 11 years or less of education were 77% (OR = 1.77, 95% CI = 1.05 to 3.01) more likely to use home remedies than were families where the father had some college or a college degree. Individuals who reported religion as being only fairly important or not too important to their families were 38.3% (OR = 0.62, 95% CI = 0.44 to 0.86) and

**Table 3. Results of Simple Bivariate Analysis with Logistic Regression for Family Home Remedy Use for Each of the Independent Variables**

Independent Variables	Estimated Coefficient ( $\beta$ )	Estimated SE	Coeff./SE ( $\beta$ /SE)	Unadjusted OR (95% CI)
Family income				
<\$5000	0.124	0.15	0.83	1.13 (0.85, 1.52)
\$5,000–\$10,000	0.15	0.15	0.99	1.16 (0.87, 1.55)
\$10,000–\$20,000	–0.07	0.14	–0.47	0.94 (0.71, 1.24)
\$20,000 or more				1.00
Family size*				
Only child	–0.29	0.21	–1.39	0.75 (0.50, 1.13)
1–3 siblings	–0.44	0.12	–3.68	0.65 (0.51, 0.82)
4–6 siblings	–0.19	0.12	–1.56	0.824 (0.646, 1.05)
7–20 siblings				1.00
Mother's education*				
0–11 yr	0.55	0.20	2.75	1.73 (1.17, 2.55)
12 yr	–0.06	0.21	–0.26	0.94 (0.62, 1.43)
≥13 yr				1.00
Father's education*				
0–11 yr	0.87	0.22	4.05	2.39 (1.57, 3.64)
12 yr	0.19	0.24	0.79	1.21 (0.75, 1.95)
≥13 yr				1.00
Importance of religion*				
Very important				1.00
Fairly important	–0.47	0.12	–3.86	0.63 (0.49, 0.79)
Not too important	–0.81	0.22	–3.75	0.45 (0.29, 0.68)
Not at all important	–0.69	0.39	–1.79	0.50 (0.24, 1.07)
Lived with grandparent*				
Yes				1.00
No	–0.42	0.12	–3.56	0.66 (0.52, 0.83)
Mother worked				
Yes				1.00
No	0.14	0.11	1.36	1.15 (0.94, 1.42)
Rural residency*				
Rural				1.00
Nonrural	–0.60	0.10	–6.10	0.55 (0.45, 0.66)
Region*				
Northeast	–0.40	0.12	–3.24	0.67 (0.52, 0.85)
North Central	0.03	0.12	0.26	1.03 (0.81, 1.32)
West	–0.19	0.20	–0.94	0.83 (0.55, 1.23)
South				1.00

Family home remedy use compared to no home remedy use by a family ( $Y = 1$  vs.  $Y = 0$ ); \* $p \leq 0.05$ .

**Table 4. Results of Logistic Regression Analysis for Family Home Remedy Use—the Full Multivariate Model**

Independent Variables	Estimated Coefficient ( $\beta$ )	Estimated SE	Coeff./SE ( $\beta$ /SE)	Unadjusted OR (95% CI)
Family size				
Only child	-0.23	0.33	-0.69	0.80 (0.42, 1.52)
1-3 siblings	-0.11	0.18	-0.60	0.90 (0.63, 1.28)
4-6 siblings	0.16	0.19	0.87	1.17 (0.82, 1.69)
7-20 siblings				1.00
Mother's education*				
0-11 yr	0.16	0.28	0.58	1.17 (0.682, 2.03)
12 yr	-0.33	0.28	-1.20	0.72 (0.414, 1.24)
$\geq 13$ yr				1.00
Father's education*				
0-11 yr	0.57	0.27	2.13	1.77 (1.05, 3.01)
12 yr	0.20	0.28	0.70	1.22 (0.70, 2.12)
$\geq 13$ yr				1.00
Importance of religion*				
Very important				1.00
Fairly important	-0.48	0.17	-2.85	0.62 (0.44, 0.86)
Not too important	-0.76	0.30	-2.50	0.47 (0.26, 0.85)
Not at all important	-0.92	0.63	-1.45	0.40 (0.12, 1.38)
Lived with grandparent*				
Yes				1.00
No	-0.48	0.18	-2.65	0.62 (0.44, 0.88)
Rural residency*				
Rural				1.00
Nonrural	-0.34	0.16	-2.15	0.72 (0.53, 0.97)
Region				
Northeast	0.03	0.20	0.16	1.03 (0.71, 1.51)
North Central	0.43	0.18	2.34	1.53 (1.07, 2.19)
West	0.13	0.29	0.46	1.14 (0.65, 2.02)
South				1.00

Family home remedy use vs. no home remedy use by a family ( $Y = 1$  vs.  $Y = 0$ ); \* $p \leq 0.05$ . Model chi square = 72.38 (15)  $p < 0.000$ .

53.3% (OR = 0.47, 95% CI = 0.26 to 0.85) less likely to report that their families used home remedies than were individuals who reported that religion was very important to them. Individuals not living with a grandparent while growing up were 37.9% (OR = 0.62, 95% CI = 0.44 to 0.88) less likely to report that their families used home remedies than were individuals who lived with their grandparent while growing up. Those individuals who reported living in a nonrural area were 28.5%

(OR = 0.72, 95% CI = 0.53 to 0.97) less likely to report that their families used home remedies than were individuals living in a rural area.

### Individual's Use of Home Remedies

From the bivariate analysis (Table 5), the following variables had a significant association with individual's use of home remedies: age, gender, education, personal income, living with a grandparent,

**Table 5. Results of Simple Bivariate Analysis with Logistic Regression for Individual Home Remedy Use for Each of the Independent Variables**

Independent Variables	Estimated Coefficient ( $\beta$ )	Estimated SE	Coeff./SE ( $\beta$ /SE)	Unadjusted OR (95% CI)
Age* (years)				1.00
18-29				
30-39	-0.46	0.17	-2.76	0.63 (0.46, 0.88)
40-54	-0.73	0.16	-4.55	0.48 (0.35, 0.66)
55-64	-0.83	0.20	-4.20	0.44 (0.30, 0.64)
65-74	-0.68	0.19	-3.53	0.51 (0.35, 0.74)
75-84	-0.89	0.30	-2.98	0.41 (0.23, 0.74)
85+	-0.76	0.70	-1.08	0.47 (0.12, 1.85)
Gender*				
Male	-0.63	0.12	5.27	0.53 (0.42, 0.67)
Female				1.00
Education*				
0-11 yr	-0.46	0.20	-2.30	0.63 (0.43, 0.94)
High school	-0.25	0.21	-1.19	0.78 (0.52, 1.17)
Some college	0.32	0.23	1.43	1.38 (0.89, 2.15)
College graduate				1.00
Personal income*				
0-\$4,999	0.67	0.25	2.67	1.96 (1.20, 3.21)
\$5,000-\$9,999	0.41	0.26	1.58	1.51 (0.90, 2.53)
\$10,000-\$19,999	0.51	0.27	1.93	1.67 (0.99, 2.82)
\$20,000 or more				1.00
Live grandparent*				
Yes				1.00
No	-0.33	0.12	-2.68	0.72 (0.563, 0.914)
Rural residency*				
Rural				1.00
Nonrural	0.39	0.11	3.49	1.48 (1.19, 1.84)
Importance of religion*				
Very important				1.00
Fairly important	0.05	0.15	0.30	1.05 (0.78, 1.41)
Not too important	0.01	0.30	0.01	1.00 (0.56, 1.80)
Not at all important	-0.49	0.58	-0.84	0.61 (0.20, 1.91)
Region*				
North East	-0.34	0.17	2.07	0.71 (0.51, 0.98)
North Central	0.39	0.14	2.88	1.48 (1.13, 1.92)
West	0.01	0.25	0.01	1.00 (0.62, 1.62)
South				1.00

Individual home remedy use compared to no home remedy use by an individual (Y = 1 vs. Y = 0); \*p ≤ 0.05.

living in a rural area, and geographic region of the country. All of these variables were included in the full model. The equation used to express

the relationship between the dependent variable and the independent variables is provided as follows:



Table 6. Results of Logistic Regression for Individual Home Remedy Use—the Full Multivariate Model

Independent Variables	Estimated Coefficient ( $\beta$ )	Estimated SE	Coeff./SE ( $\beta$ /SE)	Unadjusted OR (95% CI) SE
Age* (year)				1.00
18–29				
30–39	–0.53	0.18	–2.99	0.59 (0.41, 0.83)
40–54	–0.61	0.18	–3.38	0.51 (0.36, 0.72)
55–64	–0.69	0.22	–3.14	0.48 (0.31, 0.73)
65–74	–0.61	0.23	–2.67	0.52 (0.33, 0.81)
75–84	–0.57	0.32	–1.76	0.54 (0.29, 1.10)
85+	–0.49	0.73	–0.67	0.57 (0.14, 2.37)
Gender*				
Male	–0.64	0.14	–4.63	0.53 (0.40, 0.692)
Female				1.00
Education*				
0–11 yr	–0.39	0.25	–1.54	0.68 (0.42, 1.11)
High school	–0.32	0.24	–1.32	0.73 (0.45, 1.17)
Some college	0.32	0.26	1.26	1.38 (0.84, 2.29)
College graduate				1.00
Personal income				
0–\$4999	0.54	0.30	1.80	1.71 (0.95, 3.08)
\$5000–\$9999	0.24	0.29	0.83	1.28 (0.72, 2.27)
\$10,000–\$19,999	0.36	0.29	1.26	1.43 (0.82, 2.49)
\$20,000+				1.00
Lived with grandparent*				
Yes				1.00
No	–0.31	0.14	–2.23	0.74 (0.56, 0.96)
Rural residency				
Rural				1.00
Nonrural	0.24	0.13	1.78	1.26 (0.98, 1.65)
Region*				
North East	–0.36	0.19	–1.90	0.70 (0.485, 1.01)
North Central	0.29	0.14	–2.16	1.33 (0.99, 1.82)
West	–0.03	0.25	–0.11	0.97 (0.57, 1.66)
South				1.00

Individual home remedy use compared to no home remedy use by an individual ( $Y = 1$  vs.  $Y = 0$ ); \* $p \leq 0.05$ . Model chi square = 101.4 (18),  $p < 0.000$ .

$$\text{Logit}(Y) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7$$

where:  $\beta_0$  = constant;

$Y$  = individual's home remedy use (dependent variable);

$\beta_1 \dots \beta_k$  = beta coefficients for the associated independent variables;

$X_1 \dots X_k$  = independent variables;

$X_1$  = age;

$X_2$  = gender;

$X_3$  = education;

$X_4$  = personal income;

$X_5$  = living with a grandparent when less than 16 years of age;

$X_6$  = living in a rural area;

$X_7$  = geographic region of the country.

Following development of the full multivariate model, the variables found significant in the bivariate analysis were evaluated for significance. As shown in Table 6, the results of the logistic regression analysis indicate that when all significant variables were included in the full model, age, gender, living with a grandparent, education, and geographic region of the country were found to be significant at the 0.05  $\alpha$  level. A negative association was found for age. Individuals in the older age categories were less likely to use home remedies than were younger people. For example, individuals in the age category of 65 to 74 years were 48.4% (OR = 0.52, 95% CI = 0.34 to 0.86) less likely to use home remedies than were individuals in the 18- to 29-year-old category. Males were 47.4% (OR = 0.53, 95% CI = 0.40 to 0.69) less likely to use home remedies than females. Individuals not living with a grandparent as a child were 26.3% (OR = 0.74, 95% CI = 0.56 to 0.96) less likely to use home remedies than individuals living with a grandparent as a child.

## DISCUSSION

### Family Home Remedy Use

Prior to the analysis, we theorized that decreased educational level of the parents, increased importance of religion, geographic region, rural residency when less than 16 years old, living with a grandparent when less than 16 years of age, family size, and mother working outside of the home would be related to family home remedy use (Figure 1). Bivariate analysis indicated that six of these seven factors: decreased educational level of the parents, increased importance of religion, region of residency, rural residency, living with a grandparent when less than 16 years of age, and a large family size were significantly related to families home remedy use. The association of family size and the use of home remedies has not been previously reported and was added to our model because we postulated that it may be related to decreased socioeconomic status and decreased access to the organized health care system. The finding that increased home remedy use is associated with decreased educational level of the parents is supported by other studies.<sup>13,14,16</sup>

The positive association of increased importance of religion and home remedy use is consistent with earlier studies.<sup>7,13,15,17</sup> This positive association is supported by the belief that the ability to heal is a gift from God.<sup>13,15</sup> The Snow Public Health Group

found that African-American patients believed their faith in God was very important in the healing process.<sup>1</sup> In other self-care studies, religious overtones were strong components of Hispanic folk medicine.<sup>7,17</sup> Increased home remedy use by families with a grandparent living in the home is supported by previous studies, which found that information regarding health care is passed on by word of mouth from generation to generation.<sup>8,15</sup> The finding that rural residency is positively associated with families' use of home remedies is also corroborated by previous reports.<sup>13,14</sup> Geographic region of residency has been previously found to be positively associated with family home remedy use and was supported by our data analysis; however, the previous studies found that families residing in the South were more likely to use home remedies than were residents from other regions.<sup>13,15</sup> We found that families residing in the North Central and South were more likely to use home remedies than were those residing in the North East or West. In a survey of the home remedies used and/or recommended by 50 elderly adults, the researchers found that the respondents were evenly divided between those who spent their childhood years in large cities, those who lived in small towns or suburbs, and those who lived on farms or in rural areas.<sup>15</sup> Although the origin of home remedy use may have been in the rural Southern areas, knowledgeable individuals migrated to all parts of the country, especially the large urban areas of the North Central region.<sup>25,26</sup> Bivariate analysis indicated that neither family income level nor mother working outside of the home were related to the family's use of home remedies.

Multivariate analysis found that family home remedy use was associated with father's educational level, increased importance of religion, living with a grandparent when less than 16 years of age, rural residency when less than 16 years of age, and region of residency, especially the North Central region. Family size and the mother's educational level were no longer significant when the effects of the other variables were held constant. At the time the respondents were growing up, African-American women residing in the South generally did not work outside the home for pay. This lack of effect may also have occurred because the effect of these variables were no longer being influenced by other variables in the model or because of the influence of variables not included in the model. The father's educational level may have had more effect on the family's

home remedy use than the mother's educational level, because, at the time the respondents were less than 16 years of age, the father's educational level may have been more closely related to the family's socioeconomic status and access to health care than was the mother's educational level.

### Individual Home Remedy Use

The theoretical model proposed to influence individual home remedy use included nine variables. We theorized that a grandparent living in the home when the respondents were less than 16 years of age, region of residency, rural residency, gender, age, increased religiosity, decreased educational level, and decreased personal income would be related to individual home remedy use (Figure 2). We could not determine the effect of family home remedy use on individual home remedy use because of a lack of independence of the survey questions.

Bivariate analysis indicated that younger respondents were more likely to report home remedy use than were older respondents. This finding is not generally corroborated by previous research, which found home remedy users were older adults.<sup>8,15</sup> One study found that the average age of people who visited African-American healers was 51 years<sup>14</sup>; another study found that home remedy use was not related to age.<sup>16</sup>

Our finding of gender differences in home remedy use is consistent with previous work indicating that women are frequently the family caregivers and that the healing role is passed from mother to daughter.<sup>10</sup> The finding that home remedy users are more likely to have a higher educational level is not supported by most previous research.<sup>13,14,16</sup> However, two other studies<sup>20,21</sup> found that users of unconventional therapies are likely to be educated and have higher incomes. This change may be related to a desire by educated individuals to take more control of their own health care.

Our findings that individual home remedy use is positively associated with decreased socioeconomic status is consistent with previous reports.<sup>1,13,15,19</sup> Prior to the implementation of federal programs like Medicaid and Medicare, conventional medical services were relatively inaccessible to many people of low socioeconomic status and some people in this group used alternative therapies or received no treatment at all. Many of these individuals may now have access to conventional health care, which in turn reduces their need to use alternative therapies.

We found that home remedy users were more likely to have lived with a grandparent when less than 16 years of age. These findings are consistent with earlier research, which shows that information about home remedy use is passed on by word of mouth frequently to female family members.<sup>7,15</sup> Our finding that respondents living in nonrural areas were more likely to use home remedies is the reverse of the findings for family use and may reflect a reversal in the trend of home remedy usage. Reversals of trends have occurred in alternative therapy use for income, educational level, and age. Our findings of a positive relationship between importance of religion and individual home remedy use is similar to our findings for family use and is consistent with previous studies.<sup>7,13-15</sup> Region of residency was found to be related to home remedy use, and this finding is consistent with previous studies that indicate use of home remedies is related to the region of residency. Previous studies have shown that African Americans who were born in the South are more likely to use home remedies.<sup>13,14</sup> This phenomenon was probably related to the lack of access to conventional medical services by many individuals who live or were born in this area and to the availability of traditional ingredients to individuals who reside in this area. From approximately 1920 to 1975, many African Americans migrated from Southern rural areas to urban areas, and this migration probably had some influence on the use of home remedies by African Americans living in other regions of the country, especially the North Central region.<sup>25,26</sup>

When the effect of each variable was determined using multivariate analysis, only the effects of age, gender, educational level, living with a grandparent when less than 16 years of age, and region of residency remained statistically significant ( $p \leq 0.05$ ). The effect of decreased personal income and rural residency were no longer significant. The decreased significance of these variables on individual home remedy use when the effects of the other variables is held constant may be related to the influence of the other variables in the model or to variables not included in the statistical model.

### LIMITATIONS AND CONCLUSION

Because the primary focus of the NSBA study was not home remedy use, some of the data regarding the variables used to determine home remedy use

are missing. This limits the conclusions that can be drawn from the analysis. Also, cross-sectional designs are limited because they provide only an approximation of the process of change. Prospective studies are needed to provide a more complete picture of home remedy use by African Americans. Another limitation of this study and most studies of home remedy use is the lack of a standardized definition of home remedies. As a result, the respondents and researchers may be discussing different preparations, which could result in an under- or overestimation of the prevalence of home remedy use. However, a review of the names of the preparations used show that 68.2% of the preparations were home remedies or herbal preparations, 15.1% were nonprescription drugs, and 16.7% were classified as "other." Lastly, the format of questions may have led to an underestimation of home remedy use. The question regarding individual home remedy use was dependent on a positive response to the question "Did your family ever use any home remedies to cure illness while you were growing up?" Responses could have been missed for those respondents whose families did not use home remedies while they were growing up which may result in an underestimation of individual home remedy use.

Clearly the disadvantage of these data is their age, and much has changed over time. Self-care has increased dramatically in the past two decades along with increased marketing of herbal products. Additionally, family structures have changed, suggesting that some of our conclusions may not be appropriate for contemporary medical practice. However, one advantage is the richness of the data in addressing the study objectives. First, the study provides the first national examination of home remedy use by African Americans. Second, the many variables included in the data set allow for characterizing the family and individual sociodemographic characteristics of African Americans. Finally, the analyses raise interesting points about self-medication among a diverse group and are relevant with the increased interest in self-care and the revived interest in pharmacognosy.

Several lists of home and herbal remedies used by African Americans have been compiled by researchers along with anecdotal material about usage and effectiveness.<sup>4,5,15,19</sup> Toxicological information about some of the home and herbal remedies has also been reported; however, more thorough pharmacological and clinical studies are needed to vali-

date the therapeutic, adverse, and toxic effects of these preparations.<sup>15</sup> The National Institutes of Health recently established an Office of Alternative Medicine, which evaluates research on alternative therapies.<sup>27</sup> Health care practitioners should become more knowledgeable of the beliefs and practices of the ethnic groups they serve and realize that many individuals will use both "scientific" and folk medical systems. As more information becomes available, health care practitioners will be better able to ascertain the possible health consequences of concurrent usage of home remedies and prescription drug therapies. Home remedy use, as a component of self-care, represents an interest and a desire for patient involvement in health care. Health care providers should encourage patient involvement and dialogue regarding therapeutic approaches. With the increased emphasis on self-care, health care practitioners are ideally positioned to assist patients who may use alternative therapies. The results of this research may provide insight to health care practitioners in their challenge of appropriately integrating self-care practices (i.e., home remedy use) and the use of the formal health care system among the patients who utilize both systems. When possible, treatment plans should be adapted to consider patients' health beliefs and self-care practices.

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