A Survey on the Use of Complementary and Alternative Medicine Among Ethiopian Immigrants in the USA

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Abstract

A survey on complementary and alternative medicine (CAM) use among 358 Ethiopian immigrants in the USA revealed that 206 respondents (57.5%) [95% CI, 52.5% to 62.8%] had used herbs and supplements in the preceding five years, with garlic, ginger and flaxseed being the most commonly cited. A majority, 107 (52%) of the respondents, used supplements and herbs for respiratory illnesses. 77.7% (160) denied ever experiencing untoward effects from taking these products. Other traditional modalities employed include acupuncture, chiropractic, holy water, incense burning, prayer and traditional manipulation (wegesha). Prayer was the most frequent non-herbal modality, and was practiced by 144 (70%) of survey participants. 47% of the respondents who used alternative medicine were in the 31 to 50 year-age range, and 71.8% used herbs and supplements at least once a month. No significant gender difference in scope of CAM utilization was recorded in the survey. Among users of CAM, 177 (85.9%) had health insurance coverage, suggesting that use was not predicated by lack of access to conventional medicine. CAM is an important component of self-health care among Ethiopian immigrant communities in the USA.

Keywords: Complementary medicine; Alternative modalities; Ethiopian immigrants; On-line survey

Introduction

The prevalence and pattern of CAM utilization in the United States were reported by Eisenberg et al in two papers published in 1993 and 1998 [1,2]. A total of 1539 and 2055 adults participated in the 1991 and 1997 surveys, respectively. It was reported that the use of alternative therapies increased from 33.8% in 1990 to 42.1% in 1997. The modality that showed the highest increase during this time period was herbal medicine. According to a more recent estimate, about 62% of Americans use CAM which included prayer specifically done for health reasons [3].

The pattern of alternative medicine use among various immigrant communities in the USA has been reported, including for Chinese, Hispanic, Latino and other communities. A survey of 198 Chinese immigrants at two clinic sites in San Francisco indicated almost all (98%) of the respondents used CAM. Of these, 93% used herbal medicine the previous year [4]. In a review of 42 studies among Hispanics, it was shown the rate of CAM use was 50-90% in most of the reports [5]. A 2003-2004 survey of 620 Hispanic patients at five urban health centers in Indianapolis, Indiana revealed 80.3% used herbs, with 59.6% of the patients having taken 6-15 different herbs during their lifetime [6]. It has been reported that 18% of Mexican immigrants use CAM. In a larger study that surveyed 3,258 Chinese and Vietnamese immigrants with limited English proficiency, 60% of the respondents reported the use of CAM [7]. Similarly, an interview with 96 Latino immigrants of Mexican, El Salvadoran and Guatemalan origin in Los Angeles revealed many of them use home remedies and herbas [8].

A 2009 study reported the use of about 105 natural remedies (89 of plant origin and the rest from mineral and animal sources) among the 1,00,000 Ethiopian immigrants in Israel. This finding was based on a survey of Ethiopian markets and stores throughout Israel. As many as 20 prominent Ethiopian traditional healers and about 30-50 healers who specialize in various treatment approaches practice folk medicine to treat members...
of the Ethiopian community in Israel [9]. As cited by Kassay et al. [10], herbs, traditional medical devices and traditional medicine practitioners are available to Ethiopian immigrants in the United Kingdom. These scenario in North America contrasts with that of Israel in that there are no practicing Ethiopian traditional healers, and the population is younger and less cohesive [11]. It has been speculated that Ethiopians use traditional remedies in the USA, and yet do not disclose such use to their health care providers [12].

According to a 2014 Migration Policy Institute census, an estimated 251,000 Ethiopian immigrants live in the United States, accounting for the second largest Diaspora population from Africa after Nigeria. California, Virginia, Maryland, Minnesota, Texas and Washington, D.C. metro area are home to most of these immigrants. About 64% (160,800) of the population (first- and second-generation combined) are in the 18 to 64 years-old age bracket [13]. Cultural influences and spiritual beliefs have been implicated in inducing immigrants in the U.S. to turn to alternative medicine [14]. The Ethiopian immigrant population contributes to the ethnic and cultural diversity of the USA. They bring with them various cultural practices, such as food, arts, music and other traditional experiences. Traditional medicine is widely used in Ethiopia, and most of the first generation immigrants had some level of exposure to this experience before they settled in the United States. To the best knowledge of these investigators, no study has been published on the use of CAM by Ethiopian immigrants in the USA. The objective of this survey was to determine the extent and pattern CAM use among Ethiopian immigrants in the USA.

**Methods**

This study was approved by the Institutional Review Board (IRB) of Howard University. Prior to launching the study, a pre-survey questionnaire was administered to a group of 28 randomly selected Ethiopian immigrants. The respondents were requested to fill out the questionnaire on-line and provide feedback. Important suggestions were incorporated into the final survey questionnaire comprising of 19 questions used in this study (Appendix 1). Prior to and during the launch of the survey, flyers explaining the purpose of the study and encouraging eligible Ethiopian immigrants to participate, were distributed at churches and other places where Ethiopians congregate in the DC metro area. They were also posted on People to People Inc. website and other ethiocentric on-line groups. Invitation to participate was sent to a total of 695 eligible participants obtained from P2P’s database via MailChimp®. The survey was conducted between 13 April 2016 and 31 August 2016. Data were collected and analyzed by using primarily a SurveyMonkey® tool. Additional data were collected from the hand-filled questionnaire forms.

**Results**

**Table 1: Demographic & Social Characteristics of Respondents Using CAM.**

| Characteristics  | No. of Users | % of Users | (95% CI for %) |
|------------------|--------------|------------|----------------|
| **Gender**       |              |            |                |
| Male             | 111          | 53.9       | (46.6%-60.2%)  |
| Female           | 92           | 44.7       | (38.3%-51.9%)  |
| Not stated       | 3            | 1.5        | (0.5%-3.4%)    |
| **Total**        | 206          | 100        |                |
| **Age (in years)** |            |            |                |
| 18-30            | 35           | 17         | (12.1%-22.3%)  |
| 31-40            | 47           | 22.8       | (18.5%-28.6%)  |
| 41-50            | 48           | 23.3       | (18%-28.6%)    |
| 51-60            | 43           | 20.9       | (15.5%-26.7%)  |
| Greater than 60  | 30           | 14.6       | (9.7%-19.4%)   |
| Not stated       | 3            | 1.5        | (0.0%-3.4%)    |
| **Total**        | 206          | 100        |                |
| **Education**    |              |            |                |
| <12th Grade      | 9            | 4.4        | (0.0%-3.4%)    |
| High school diploma/GED | 11 | 5.3 | (2.9%-8.7%) |
| Some college     | 34           | 16.5       | (11.2%-21.4%)  |
Out of a total of 695 eligible people who were invited to participate in the survey, 358 completed the questionnaire, resulting in a 51.5% response rate. The pattern of response among CAM users was: males 111, females 92; 35, in the age range, 18-30; 47 (31-40); 48 (41-50); 43 (51-60) and 30 (over 60-year age range). In the survey, 206 (57.5%) [95% CI, 52.5% to 62.8%] of the respondents used herbs and supplements in the past five years. Respondents who most often use alternative medicine (88; 42.7%) had a range of annual family income (USD $0-50,000), while the lowest number of respondents (23; 11.2%) had an annual family income in the range $1,00,001-1,50,000. Of a total of 206 respondents who use herbal/supplements, 76 (36.9%) had education at the MSc degree, or higher level, while 54 (26.2%) had a BA/BSc degree (Table 1). The most common herb used was garlic (163, 79.1%), followed by ginger (170, 82.5%), with a combined 139 (67.2%) respondents using both herbs. Friends and families (75.2%) and the Internet (35.4%) were the most common sources of information about herbals and supplements (Table 2). With respect to other CAM modalities, 144 (69.9%) used prayers, while 123 (59.7%) used holy water (Table 3). The most common ailments treated with complementary medicine were those related to respiratory (107; 51.9%) and gastro-intestinal (88; 42.7%) problems (Table 4). About 91% (187) of those who used herbals and supplements also use other forms of alternative medicine (Table 3). A total of 183 (88.8%) respondents who took herbs and supplements had medical insurance (Table 5). Of the 125 respondents who answered the specific question, 69 (55.2%) did not tell their primary care physician their use of herbals and supplements. Respondents who had education at the BA/BSc or MSc levels (130, 63.1%) were the most frequent users of alternative medicine.
### Table 2: Use Pattern of Herbals and Supplements.

| Pattern of Use | n  | % of respondents |
|----------------|----|-----------------|
| Herbs/supplements |     |                 |
| Garlic          | 163| 79.1            |
| Ginger          | 170| 82.5            |
| Flaxseed        | 124| 60.2            |
| Honey           | 100| 48.5            |
| Lemon           | 87 | 42.2            |
| Vitamins        | 75 | 36.4            |
| Eucalyptus (bahr zaf) | 70 | 34             |
| Boswelia (itan) Commiphora (kerbe) | 36 | 17.5          |
| Damakese (Ocimum sp.) | 35 | 17            |
| Moringa         | 33 | 16              |
| Duba fre (Cucurbitapepo) | 30 | 14.6          |
| Dingetegna (Taverneria abyssinica) | 15 | 7.3           |
| Tej sar (Cymbogon sp) | 8  | 3.9            |

**Where herbs/supplements were bought**

| Where herbs/supplements were bought* | n  | % of respondents |
|-------------------------------------|----|-----------------|
| Brought from Ethiopia               | 93 | 45.1            |
| Herbal stores                       | 75 | 36.4            |
| Ethiopian stores                    | 73 | 35.4            |
| CVS/other stores                    | 16 | 7.8             |

**Frequency of use**

| Frequency of use | n  | % of respondents |
|------------------|----|-----------------|
| Daily            | 31 | 15              |
| Weekly           | 70 | 34              |
| Monthly          | 47 | 22.8            |
| Yearly           | 31 | 15              |
| Rarely           | 14 | 6.8             |
| Once in last five years | 10 | 4.9           |

**Side effects experienced**

| Side effects experienced | n  | % of respondents |
|--------------------------|----|-----------------|
| Never                    | 158| 76.7            |
| Rarely                   | 39 | 18.9            |
| On several occasions     | 5  | 2.4             |
| Missing                  | 4  | 1.9             |

**Sources of Information**

| Sources of Information* | n  | % of respondents |
|-------------------------|----|-----------------|
| Friends and Families    | 155| 75.2            |
| Internet                | 73 | 35.4            |
| Books and magazine      | 50 | 24.3            |
| Television ads          | 6  | 2.9             |
| Others                  | 21 | 10.2            |

### Table 3: Non-Herbal Alternative Therapies Used*.

| Type of Alternative Therapy | Respondents (n) | Percentage (%) |
|-----------------------------|-----------------|----------------|
| Prayers                     | 144             | 70             |
| Holy water                  | 123             | 59.7           |
| Acupuncture                 | 52              | 25.2           |
| Massage                     | 52              | 25.2           |
| Incense burning             | 43              | 20.9           |
| Traditional manipulation    | 28              | 13.6           |
| (wegesha)                   |                 |                |
| Chiropractic                | 22              | 10.7           |
| Biofeedback                 | 16              | 7.8            |

*Total number of respondents = 180; most respondents reported use of more than one type therapy at the same time.

### Table 4: Reported Indications and Frequency of CAM Use.

| Indications                  | Respondents (n) | Percentage (%) |
|------------------------------|-----------------|----------------|
| Brain (e.g. headache, poor memory) | 27              | 13.1           |
| Diabetes                     | 12              | 5.8            |
| Gastrointestinal (e.g. dyspepsia, gastritis) | 88              | 42.7           |
| Heart problems               | 42              | 20.4           |
| Pain/arthritis               | 36              | 17.4           |
| Psychiatry (e.g. depression, insomnia) | 13              | 6.3            |
| Respiratory (e.g. cough, cold, sore throat) | 107             | 51.9           |
| Skin/Wound                   | 27              | 13.1           |

*Calculated based on 206 CAM users; most respondents reported more than one use.

### Table 5: Insurance Status of Respondents Who Use CAM.

| Health Insurance | n  | %   |
|------------------|----|-----|
| Insured          | 183| 88.8|
| Uninsured        | 21 | 10.2|

*% ages do not add up to 100%, because some respondents gave multiple answers.
Discussion

Ethiopian immigrants in the USA have strong attachment to traditional and alternative medicine which is deeply rooted in their culture and belief system. Heavy utilization of CAM probably stems from their country of origin, where an estimated 80% of the population still uses non-conventional modalities. In Ethiopia itself, the frequency of use can be much lower in urban areas. For example, a survey in Addis Ababa, Ethiopia showed that 26% of the population use traditional medicine [15]. Compared to the frequency reported for Addis Ababa, our survey showed a significantly higher rate at 57.5%. In addition to herbs and supplements, 180 respondents (87.4%) also used other alternative modalities (Table 3).

Although our survey showed more men than women used CAM (53.9% vs 44.7%), the difference is not significant (p=0.076). Respondents in the age groups 31-40 and 41-50 are more frequent users of CAM. Overall, age did not correlate with CAM use (r²=0.0584, p=0.696, calculated for age mid-points). Respondents (42.7%) with lower income bracket ($0 to $50,000) and those with a Master’s degree or higher educational levels (36.9%) are the most frequent users of CAM (Table 1). It appears there is no linear relationship between income and education level among Ethiopian immigrants, as many may not be able to pursue their professional career after resettling in the USA. About 89% of respondents who used CAM in our survey had health insurance (Table 2), which is on a par with figures reported for African Americans (81.5%), Asian Americans (87.3%) and non-white Latinos (87.2%) [16]. It is also interesting to note in one survey 55.2% did not report their use of alternative modalities to their healthcare providers [17]. In a large survey of about 1,000 people aged 50 years and older, it was found 67% did not discuss their CAM use with their health care provider [18]. In our survey, we found a much lower number (55.2%) did not divulge this information to their primary care providers. The majority of the survey respondents (75.2%) learned about herbas and supplements from friends and families, which perhaps emanated from the family tradition and close intra-community ties and interactions. Similar trends were obtained from a Lebanese national CAM survey [19]. In another study, family and friends (Tadias Magazine) and discussion groups (eedn@googlegroups.com) are acknowledged for disseminating the news about the study. This study did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Appendix 1

Survey questionnaire

1. Contact information
2. What is your age range?
3. What is your gender?

4. How long have you lived in the USA?
   - [a] Less than 1 year
   - [b] 1-5 years
   - [c] 6-10 years
   - [d] 11-15 years
   - [e] More than 15 years

5. Level of education
   - [a] < 12th grade
   - [b] High school diploma/GED
   - [c] Some college
   - [d] BA/BS
c
   - [e] MSc or higher

6. What is your approximate average household income?
   - [a] $0-$50,000
   - [b] $51,001-$100,000
   - [c] $101,001-$150,000
   - [d] Above $150,000

7. Have you taken any supplements/herbals in the past 5 years?
   - [a] Yes
   - [b] No

8. Have you made your primary care provider aware of your usage of supplement/herbs?
   - [a] Yes
   - [b] No

9. Do you have medical insurance?
   - [a] Yes
   - [b] No

10. What other complementary medicine modalities have you used besides supplement/herbals (select that apply)?
    - [a] Holy water
    - [b] Prayer
    - [c] Incense (itan)
    - [d] Traditional manipulation (wegesha)
    - [e] Acupuncture/massage/acupuncture
    - [f] Traditional medicine (e.g., Itan)
    - [g] Other (please specify)

11. What are the names of the supplements/herbs used?
    - [a] Ginger
    - [b] Garlic
    - [c] Flaxseed
    - [d] Dingetegna
    - [e] Moringa
    - [f] Bahrzaf
    - [g] Itan/Kerbe
    - [h] Duba fre
    - [i] Kosso/Metere
    - [j] Damakese
    - [k] Tej sar
    - [l] Lemon
    - [m] Honey
    - [n] Spirits
    - [o] Vitamins
    - [p] Others (please specify)

12. How often do you use supplements or complementary modalities?
    - [a] Daily
    - [b] At least once a week
    - [c] At least once a month
    - [d] At least once a year
    - [e] At least once in the past five years
    - [f] Rarely

13. For what ailments or disease conditions did you take the supplemental/herbal product?
    - [a] Heart (e.g., high blood pressure, high cholesterol)
    - [b] Diabetes
    - [c] Skin/wound
    - [d] Respiratory (e.g., cough, cold and sore throat)
    - [e] Pain/Arthritis
    - [f] Brain (e.g., headache, poor memory)
    - [g] Stomach (including gastritis, dyspepsia)
    - [h] Kidney
    - [i] Psychiatry (e.g., depression, insomnia)
    - [j] Other (please specify)

14. Do these complementary modalities help? If so, how?

15. How often have you experienced unwanted side effects from herbals and supplements?
16. If you experienced side effects from herbs or supplements, please describe the episode.

17. Where did you obtain or buy the supplements/herbs (please, select all that apply)?
   [a] Ethiopian stores  [b] Brought or sent from Ethiopia  [c] Friends and family in the USA  [d] Herbal stores  [e] Other (please specify)

18. How did you learn about the supplements/herbs (select all that apply)?
   [a] Books/Magazines  [b] Friends/Family  [c] Internet  [d] Others (please specify)

19. What is your overall comment in support or against the use of herbs or supplements and other complementary medicine?

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