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# Traditional and Commercial Herb Use in Health Self-Management among Rural Multiethnic Older Adults

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## Abstract

This study analyzes the role of traditional and commercial herbs in older adults' health self-management based on Leventhal's Self-Regulatory Model conceptual framework. Sixty-two African American and white adults age 65 and older completed qualitative interviews describing the forms of herbs currently being used, sources of information about them, interpretations of health (acute symptoms or chronic conditions) that lead to their use, and the initiation and suspension of use. Traditional herbs are native to the region or have been traditionally cultivated; usually taken raw or boiled to produce tea; and used for treating mild symptoms. Commercial herbs are prepared as pills, extracts, or teas; they are purchased at local stores or ordered by catalog or internet; and used for health promotion, illness prevention or treatment of chronic conditions. Herbs are widely used among older adults; this analysis differentiates the types of herbs they use and their reasons for herbs use.

### Keywords

Complementary therapies; herbal remedies; rural aging; minority aging

## Introduction

Herbs are widely used in the United States by older adults as part of their health self-management (Barnes, Powell-Griner, McFann & Nahin, 2004; Bruno & Ellis, 2005; Kemper, Gradiner, Gobble & Woods, 2006; Arcury, Grzywacz, Bell, Neiberg, Lang, & Quandt, 2007a; Barnes, Bloom & Nahin, 2008). Herbs are plants, plant products, and plant extracts that people use to affect their health. Nationally, approximately 12% of adults 65 years of age and older use an herb each year, with 6% using an herb in conjunction with prescription medication (Bruno & Ellis, 2005; Loera, Black, Markides, Espino & Goodwin, 2001; Arcury et al., 2007a). Examples of herbs often used by older adults in the United States are *Ginkgo biloba* for memory, Echinacea for immune system strength, St. John's Wort for depression, and garlic for cholesterol reduction (Bruno & Ellis, 2005).

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Although common, herb use is a poorly understood health behavior among older adults. Most population data on herb use come from national surveys in which all herbal products are combined to create a single measure. Analyses of such measures show that typical herb users in the United States are women, those with higher educational attainment, those with greater household incomes, those living in the western United States, and those with chronic health conditions (Loera et al., 2001; Bruno & Ellis, 2005; Grzywacz, Lang, Suerken, Quandt, Bell & Arcury, 2005). However, few studies present information that differentiates the herbs used by older adults. An exception is an analysis by Arcury and colleagues (2007a) that examines ethnic differences in the use of specific herbs.

Older adults in the US use herbs that are native to their region or are traditionally cultivated (Cavender, 2006; Cavender & Beck, 1995; Arcury et al., 2007a). However, many herbs have been commercialized and are produced and sold through national distribution networks; these commercially produced herbs are widely used among older adults (Arcury et al., 2007a). Because the cultural knowledge of traditional and commercial herbs varies among older adults, as does their production and distribution, it is likely that their patterns of use are different. However, these patterns of use have not been documented.

The factors shaping herb use among older adults, particularly rural and minority older adults, remain poorly delineated. Herb use among rural and minority older adults is a particularly important issue. Although folklore studies have been conducted among these older adults (e.g., Cavender, 2003, 2006; Frate, Croom, Frate, Juergens & Meydrech, 1996), few studies have investigated actual herb use in these communities. Historically, structural barriers have limited access to medical care in rural communities, and many rural older adults grew to adulthood in communities with limited access to formal medical care and without resources to pay for medical care when it was available (Gesler, Hartwell, Ricketts & Rosenberg, 1992; Goins, Williams, Carter, Spencer & Solovieva, 2005). They often relied on local knowledge, such as herbal remedies, for health care. Primary medical care has become far more available in rural communities but specialty care remains limited (Bell, Quandt, Arcury, Snively, Stafford, Smith & Skelly, 2005; Onega, Duell, Shi, Wang, Demidenko & Goodman, 2008). Today, transportation to conventional health care remains a problem in most rural communities (Arcury, Preisser, Gesler & Powers, 2005).

Although several investigators describe the individual characteristics associated with herb use (e.g., Loera, Black Markides, Espino & Goodwin, 2001; Bruno & Ellis, 2005), few provide a conceptual approach to understanding why people use herbs. The dominant justification for documenting the use of herbs is to promote clinician-patient discussions about safety and potential interactions with prescription medications (Nahin, Fitzpatrick, Williamson, Burke, DeKosky & Furberg, 2006; Abebe, 2002; Izzo & Ernst, 2001). A conceptual approach for understanding why people use herbs would allow identifying cultural and structural factors leading to their use, and provide the foundation for health education for older adults about the value and hazards of herb use. Arcury and colleagues (Grzywacz et al., 2005; Arcury et al., 2006; Arcury et al., 2007a) have developed a conceptual model for the use of herbs and other complementary therapies among older adults. Drawing on the health self-care and health self-management framework (World Health Organization, 1983; Kelner & Wellman, 1997; Ory, DeFriese & Duncker, 1998;

Quandt, Arcury, & Bell, 1998; Votova & Wister, 2007; Clark, Frankel, Morgan, Ricketts, Blain, Nyland & Callahan, 2008), they argue that elders are actively involved in making observations and treatment decisions about acute symptoms or chronic conditions for their health self-management. Complementary therapies, including herbs, are one component or strategy of health self-management. Arcury and colleagues' health self-management framework would argue that herbs are used by older adults to prevent illness or health decline, and that older adults will turn to herbs to treat acute symptoms and to manage ongoing chronic illnesses.

The self-management model of Arcury and colleagues draws on the mechanisms delineated in Leventhal's Self-Regulatory Model of health self-management for understanding the use of herbs (Leventhal, Halm, Horowitz, Leventhal & Ozakinci, 2004). The Self-Regulatory Model suggests that people act as common-sense scientists when forming representations of illness and that these representations produce goals for health self-management behaviors (Cameron & Leventhal, 2003). The model posits that people are active in solving health-related problems; and they construct self-regulatory or common-sense models for symptoms, states, or illnesses which lead to an evaluation of options for health self-management. According to the Self-Regulatory Model, people select behaviors based on their beliefs of a symptom, state, or illness; their understanding or perception of their health; their knowledge of treatments (in order to use a therapy, they must know it is available, where the therapy can be acquired, and how it is to be used); their financial resources; and their access to treatments (elders cannot use a treatment if it cannot be acquired in their community) (Arcury et al., 2007a; Barnes, Mendes de Leon, Bienias & Evans, 2004).

This analysis uses qualitative data from in-depth interviews conducted with African American and white rural adults age 65 and older to examine why these older adults integrate herbs into their health self-management regimen. First, it delineates the forms of herbs older adults use and discusses information sources. Second, it delineates ways in which older adults use different herbs in health self-management.

## Methods

Participants were selected from three counties in south central North Carolina. The counties from which study participants were selected are rural and have higher rates of poverty than the state or nation, with two of the three counties having poverty rates that exceeded 25%. The counties also have large minority populations, ranging from 50 – 65%. Two counties are small geographically, with populations of approximately 36,000 [County A] and 47,000 [County C]. The third county [County B] is large geographically, with a population of approximately 130,000.

No one definition exists for delineating when a locale or region is "rural" (Hewitt, 1992). Common definitions include those proposed by the US Census Bureau, which includes any locale with a population of less than 2,500 as rural, and by the US Office of Management and Budget, which places counties in metropolitan and non-metropolitan regions. However, small towns of over 2,500 are still generally considered rural, and rural counties adjacent to counties with large cities are often included in metropolitan regions. Conceptually, "rural"

includes three dimensions: structural-ecological (e.g., population density, major industries), social (e.g., family organization, voluntary associations), and cultural (e.g., beliefs and values) (Rowles, 1988). The most frequently used definitions of rural places are based on structural characteristics (Hewitt, 1989, 1992). The counties included in this study were selected to obtain variability in type of rural county.

Structurally, the three counties represent variation on the urban-rural continuum, often referred to as the Beale Codes (http://www.ers.usda.gov/Data/RuralUrbanContinuumCodes/2003/). County A is in a metropolitan area with an urban population of 250,000 to 1 million, County B is a nonmetropolitan county with urban population of 20,000 or more, and County C is a nonmetropolitan county with urban population of 2,500–19,999. However, although these counties are in metropolitan areas and contain urban areas, they remain largely rural. For example, they have relatively low population densities; although the population density for North Carolina in 2010 is 196 persons per square mile http://2010.census.gov/2010census/data/apportionment-dens-text.php, the comparable densities for these counties are 113 [County A], 141 [County B], and 120 [County C]. It is important to note that County A, which is in a metropolitan area, has the lowest population density. A review of county maps based on rural definitions that have been prepared by the Economic Research Service, United States Department of Agriculture (http://www.ers.usda.gov/Data/Ruraldefinitions/maps.htm) indicates that County A, which is in a metropolitan area, includes only one town and this town has a population of fewer than 10,000. Counties B and C have urban places of over 10,000 persons. Agriculture remains important in these three counties; based on the 2007 Census of Agriculture (http://www.agcensus.usda.gov/publications/2007/Full_Report/Volume_1,_Chapter_2_County_ Level/North_Carolina/index.asp), although 27.2% of the North Carolina's land area is in farms, the comparable percentages are 24.1 [County A], 44.1 [County B], and 32.2 [County C]. These counties have limited access to health care compared to the state. For example, in 2009, North Carolina had 21.2 physicians per 10,000 population and 9.2 primary care physicians per 10,000 population. County A, the county in the metropolitan area, by contrast had 2.6 physicians per 10,000 population, and 2.6 primary care physicians per 10,000 population; County B had 11.6 physicians per 10,000 population, and 6.9 primary care physicians per 10,000 population; and County C, the county in the non-metropolitan area, by contrast had 17.6 physicians per 10,000 population and 9.2 primary care physicians per 10,000 population (Cecil G. Sheps Center for Health Services Research).

The counties are socially and culturally rural, although specific statistics to this point are not available. However, the investigators have conducted research in this region of North Carolina for over 15 years. This research has used ethnographic as well as survey methods to document the rural character of these communities in such domains as religiosity (Arcury, Quandt, McDonald & Bell, 2000; Arcury, Stafford, Bell, Smith, Snively & Quandt, 2007b), and food ways (McDonald, Quandt, Arcury, Bell and Vitolins, 2000; Quandt, McDonald, Arcury, Bell & Vitolins 2000; Quandt, Arcury, Bell, McDonald & Vitolins, 2001a; Quandt, Arcury, McDonald, Bell & Vitolins, 2001b).

A site-based procedure (Arcury & Quandt, 1999) was used to implement the ethnographic sample design (Werner & Bernard, 1994). The purposeful sample was designed to recruit 60 community dwelling participants with equal numbers of African American and white

women and men aged 65 and older. As with most of the rural southeastern US, the majority of the populations in these counties are comprised of African Americans and whites. Inclusion criteria were community dwelling, aged 65 and older, African American and white, and sufficiently healthy to complete a one to two hour interview. The study had no exclusion criteria. A sample of approximately 60 participants was recruited to reflect the range of knowledge, beliefs, and practices in the community (Werner & Bernard, 1994). Participant recruitment ended when this number was interviewed. Participants were recruited from 26 sites across the study counties that served different ethnic and social groups. These sites included four congregate meal sites, two home-delivered meals programs, two senior housing sites, four senior centers and clubs, a local AARP affiliate, three churches, three county social service programs, three county health department programs, a local restaurant, and two other research projects. A gate keeper at the various facilities or a project staff member presented information about the project to the older adults who were present at the facility. Based on the project information, older adults would provide contact information if they desired to participate in the project. Once contacted by a project team member, a time and location for an interview was decided upon.

Data collection was based on in-depth, semi-structured interviews completed from February through October, 2007. Interviews were conducted at a location of the participants' choice, usually their homes. Interviewers explained the project and obtained signed informed consent. Participants received a small incentive ($10) at the end of the interview. Interviews ranged in length from about one hour to three hours. Data collection procedures were approved by the Wake Forest School of Medicine Institutional Review Board.

The interview captured information about the use of complementary therapies and the beliefs surrounding use of these therapies. First, participants were asked how they treat specific common symptoms (e.g., headache, dizziness, rash, sunburn) in ways other than going to a doctor or using medications prescribed by a doctor. Second, participants were asked about remedies and treatments people might use to treat specific chronic conditions such as arthritis, asthma, high blood pressure, and diabetes. Third, participants were presented with common household products, herbs, and over-the-counter medicine that might be used as remedies; and for each they were asked if they ever used it, if they currently used it, if they had ever heard of other people using it, and for what it was used. Herbs specifically queried included aloe, Echinacea, garlic, ginseng, yellow root, *ginkgo Biloba*, golden seal, St. John's Wort, feverfew, saw palmetto, valerian, chamomile, catnip, mint, and green tea. Other herbs mentioned by participants during the interview were probed as needed. Other topics covered in the interview included other complementary therapies (e.g., biofeedback) and practices (e.g., acupuncture) as well as how people in their communities discussed health and illness, and remedies and practices not prescribed by a doctor.

Data analysis was based on a systematic, computer assisted approach (Arcury & Quandt, 1998). The Atlas. ti 6.0 software program was used for qualitative data management, systematic coding and analysis. All interviews were transcribed verbatim and were edited for accuracy. Analysis was an iterative process. Initial case summaries were written for each participant. The cases were written by one team member and then edited for content by a

second team member. Each case summary contained the same categories of information: general background information, feelings about conventional medical care, general medical knowledge, religion, complementary therapies use, and health care decision making. The cases were used to delineate the complementary therapy use of each participant and for comparison of use across all participants. A coding dictionary was developed from the initial transcript review and case summaries. Each transcript was reviewed and coded by one member of the project team. At the end of coding, the initial case summaries were reviewed and revised by the project team member who coded the transcript. A second team member then reviewed the coded transcript and suggested revisions to the coding and the case summary. At the end of the process, each transcript and case summary had been reviewed by at least two project team members.

To categorize participants as herb users, the primary author reviewed each of the case summaries and read the original transcripts for dialogue that supported the use of and beliefs about herbs. Similarities and differences across the cases were summarized. Interview quotations supporting the interpretation of textual results are presented with participant ID number, ethnicity, and gender.

## Results

### Participants

Interviews were completed with 17 African American women, 14 African American men, 15 white women, and 16 white men. They include 21 participants aged 65 to 69, 15 participants aged 70 to 74, 13 participants aged 75 to 79, and 13 participants aged 80 and older.

### Use of Herbs

Twenty-nine participants, ten African American women, five African American men, ten white women, and four white men, reported using herbs for health self-management (Table 1). Herb use was more common among African American and white women than among African American or white men. Analysis of the herbs used by the participants led to classifying them into two general categories: traditional or commercial (Table 2). Traditional herbs were native to the region or had been traditionally cultivated; they were most often taken raw or boiled in water to produce a tea. Often traditional herbs had been used since childhood. They included pine top tea for colds; alfalfa tea for arthritis; chamomile tea, mint tea, and catnip tea to promote calmness and sleep and to relieve menstrual cramps; and chicory tea for headache, fever, chills, and swelling. Other traditional herbs included tobacco for insect bites and stings; yellow root boiled and reduced to a serum for nausea and stomachache and to control blood pressure; and mullein leaf for aches, pains, and fever. Some herbs which were used in cooking were also used for medicinal purposes, such as ginger for nausea; sage for a rash; and cloves for a toothache. Commercial herbs were commercially prepared in pill, extract, or tea form and purchased in local stores or ordered by catalog or via the internet. They were not from plants that were native to the region. Examples of commercial herbs discussed by the participants include St. John’s Wort, Echinacea, saw palmetto, and *Ginkgo biloba*.

Similarly equal proportions of African American and white women used traditional and commercial herbs, as did about equal proportions of African American and white men. Although more women than men used herbs for health, no patterns were apparent in the reasons for using these herbs by participant ethnicity or gender.

Knowledge of traditional herbs was acquired primarily by word-of-mouth.

Interviewer: Where do you think people learn about different remedies?

Respondent: They learn from their heritage, from generation to generation. That's the way with most folks. Word of mouth, you know. (CAM051 African American man)

Many users of traditional herbs also shared knowledge of these herbs with people living in their community.

I got a niece that she's the principal over here at [name] High and she said, "Aunt [name] I just have so many hot flashes I can't hardly stand it." I said, "Well get you some sage and some sugar and put it in a bag and put it under your tongue….and let it dissolve…." (CAM029 African American woman)

Older adults reported supplementing this traditional herb knowledge with commercial sources, including the internet, as well as through books, magazines, and television. Contemporary information sources for traditional herbs discussed by the older adults included Eye on Health (a weekly component of a local news show), the books "Back to Eden" and "Old Time Vinegar, Garlic, Baking Soda and 101 More Problem Solvers," and "Alternatives" magazine. Older adults also showed interviewers their home computers which they used to search the internet for information.

Interviewer: Where do you think folks learn about the different remedies or tonics or health care providers?

Respondent: There is all kinds of advertisement now, and I think you just read. You just have to read.

Interviewer: So you think the media is a big source?

Respondent: Yeah, I do. (CAM005 White woman)

Users of commercial herbs learned about these herbs from books, magazines, pamphlets, and the internet. Many actively sought new information about these products. However, these older adults voice a need for caution when seeking new information.

Because some of them [herbs] is just artificial. I've seen them on TV. They advertise them on TV you know and they'll tell you which ones is not real and which are. Which you never know the way the media is sometimes, you never know whether it's right or wrong. You just take a chance. (CAM033 White woman)

Some individuals reported that a conventional physician suggested herb use or was supportive of herb use.

> Now there's a doctor somewhere around here in this area, he's a doctor but he also believes in herbs and he, when you go to him he gives you a lot of information on them. (CAM047 African American woman)

### Herb Use for Health Self-Management

The participants discussed using traditional and commercial herbs for different purposes in managing their health. Traditional herbs were primarily used for treating acute symptoms considered mild or easily alleviated. Examples of use for acute symptoms included yellow root for constipation, aloe vera for burns, ginger or mint tea for upset stomach, mullein leaves to reduce swelling, and chamomile tea for to promote sleep or ease depression. Traditional herbs were seldom used for treatment or maintenance of chronic health conditions.

> Interviewer: What if you're having difficulty sleeping?
>
> Respondent: Oh you're asking me about all the things that really happen to me. There is a good old flower that grows out there called chamomile. I go and fix me a large cup of chamomile and sip that and I usually fall off to sleep. (CAM046 African American woman)

Commercial herbs were primarily used for health promotion and illness prevention or the treatment of chronic conditions, with little mention of use for treating acute symptoms.

> Respondent: Yes, I use that [goldenseal] occasionally. In fact I think there's some in this—yeah, there's some in this Echinacea drop.
>
> Interviewer: And what do you use the goldenseal for?
>
> Respondent: Well, I just use it as --for my cold -- I mean, to build up my resistance from a cold. (CAM001 African American woman)

Several factors led older adults to use of herbs. If they were confident that herbs would successfully treat specific symptoms, they might use an herb before trying an over-the-counter medication or medicine prescribed by a physician. The goal was treatment of symptoms at home with herbs that they had on hand.

> I know my daddy and mother used to use it when we were kids and I've used quite a bit so when I get sick or something goes wrong, that's the first thing I think of. Try to find me an herb. (CAM047 African American woman)
>
> …you hear a lot of elderly people talking about the different herbs that they use and then there's some that don't. They'd rather have doctor medicine than the herb, but me, I always stuck with the herbs that my mother and grandmother gave me…If it worked then I use it and try to grow it. (CAM011 African American woman)

Several believed in their own ability to care for their health without help from a doctor. For example, CAM045, a 68 year old white woman, was someone who believed she was generally able to care for her own health with minimal assistance from medication and health care providers. She was in good health, but had high blood pressure. She was a self-proclaimed "naturalist," holding strong beliefs in natural healing and the healing power of nature. She believed she was aware of what was happening inside her body. With her

awareness, she was often able to care for a symptom on her own with herbs. In addition to contemporary herbs, she used home remedies, supplements, and new age practices. She stated that she was the one who was responsible for her health, “I am pretty good about listening to my body and trying to stay aware of what’s going on. I’m also pretty good about realizing that, given a minimal bit of support and help, very often your body can heal itself over time.”

Other reasons for using herbs included not wanting to visit a doctor or to wait at the doctor’s office, and the cost of conventional medicine. One participant stated that “some of these elderly people are not financially able to have proper medical care and they do a lot of things to compensate” (CAM007 White man).

> Stay home and try to use common sense…try to treat it at home. I don’t see, I think people running to doctors for things that you could do for yourself is what is affecting our healthcare today…People years ago did remedies at home, and a lot of those we can still do today. (CAM042 White woman)

When conventional medicines failed to resolve a condition or symptom, older adults used familiar herbs. Older adults did what they believe is beneficial to their health, including herb use to treat conditions and symptoms.

> ....because I know there are some medicines that I have taken from the doctor that didn’t do me no good so you might be doing more harm than you are good. So I take what I think is good for me and this yellow root, I can take and get up at night and get me some water, sometimes I make my tea in the microwave to keep it from taking so long and get a cupful of that then go back to bed and go to sleep. (CAM011 African American woman)

Rarely was the cost of herbs, either traditional or commercial, mentioned by participants. CAM028 stated she used herbs despite the cost as she believed that they were better for her than synthetic medication. This participant, a 65 year old African American woman, had high blood pressure, arthritis, carpel tunnel syndrome, and an undefined stomach condition. She took prescription medicine for high blood pressure, arthritis, and her stomach condition. She made great use of conventional medical care, but at the same time, she tried herbs. She preferred herbs and other home remedies to conventional medicine or visiting her doctor. At times she felt she knew more about her health than her doctor. She visited her doctor every three months but indicated that she was unable to go the dentist or eye doctor because she could not afford the expense. However, she would spend money on commercial herbs,

> No, no more than if I could find an herb to take for (symptoms), but herbs are very expensive, but like I say, I’d rather sometimes pay the expense for less chemical because I think chemical, because sometimes medicines make you sicker than what you really are and I don’t know if it’s coming from the chemicals in it or what. (CAM028 African American woman)

Finally, participants were quite pragmatic in their decisions to not use an herb or to discontinue the use of an herb. Difficulty acquiring traditional herbs was a problem. Some traditional herbs were difficult to acquire or non-existent due to pesticides and chemicals being used on plants, development of roads and housing, and simply no longer being able to

find them in the yard. A few examples of such plants were catnip, sage, and limestone; these plants were at one time easily acquired in the wild.

> Interviewer: Well, what caused you not to be able to go out and get herbs?
>
> Respondent: You see working the roads now and cleaning up ditches and things. They're destroying just about everything growing (CAM018 African American woman).

The primary reason given by older adults for discontinued use of commercial herbs was there was not a noticeable change in their health as a result of the herbs. Other participants discontinued use of commercial herbs because the herb caused significant physical discomfort.

> Interviewer: When did you try green tea?
>
> Respondent: I've been trying it this year but, I mean if I drank it maybe a little bit maybe once a week it might not bother me but the one I got from her she said drink it every morning. But I tried that and I don't think it agreed with my medicine or it might be just me. I don't know which one it is…. It's not green. It's not, it's a green tea but it's a herb and you boil your water and put it in the water, 'cause somebody told me that if the police stopped you they'd swear you got marijuana. But that's how you have to fix it and then drain it and use it as a tea. But it didn't agree with me. (CAM028 African American woman)

## Discussion

This qualitative analysis focused on the herbs that older adults indicated that they use for health self-management. A substantial proportion of these older adults use herbs for health self-management. Herb use is related to gender, with far more women than men using herbs for health self-management. The greater use of herbs by women reflects the findings of other studies (Bruno & Ellis, 2005; Grzywacz et al., 2005). Herb use was not related to ethnicity. About the same proportion of African American and white women, and African American and white men used herbs. This also reflects the general literature that reports similar percentages of African American and white older adults use herbs for health (Arcury et al., 2007a). The similarities in the proportions of African American and white older adults who use herbs and in the reasons and purposes for which they use herbs indicates overlap in the health beliefs surrounding herb use in these two ethnic groups.

This study considers use of both traditional and commercial herbs. This distinction is important, especially when studying older adults, given evidence that they commonly use traditional remedies, including herbs (Arcury et al., 2007a; Cavender & Beck, 1995; Cavender 2006; Frate et al. 1996). However, these traditional remedies are generally not included in formal surveys of complementary therapy use. The traditional versus commercial classification is also important for appropriately quantifying total herb use in the population. Indeed, Arcury and colleagues (2007) noted that surveys typically emphasize commercial herbs that are more widely used by majority rather than minority adults, resulting in underestimates of herb use by minority adults.

The distinction between traditional and commercial herbs reflects an etic interpretation of herb use among these older adults, rather than an emic differentiation among the older adults themselves (Pike, 1971). The older adults make few deliberate distinctions between traditional and commercial herbs in their discussion. However, they use these traditional and commercial herbs differently. Traditional herbs are most commonly used to treat acute symptoms that are considered mild or easily alleviated. Some traditional herb use is still based on what is grown in the garden or picked in the local fields and forests. Commercial herbs are commonly used for the treatment of chronic conditions or illness prevention and health promotion. Commercial herbs are commercially prepared in pill, extract, or tea form and are purchased in local stores or ordered by catalog or via the internet.

Similar to other reports, knowledge of traditional herbs is largely gained through the oral traditions of these communities (Cavender & Beck, 1995; Frate et al., 1996; Arcury et al., 2002). However, several of the older adults use contemporary media, such as the internet, to augment their knowledge of traditional herbs and to learn about commercial herbs. The importance of contemporary media for herb use, as well as the use of conventional and other complementary therapies, is an important topic for further investigation. Interviewers for this study commonly observed computers in the homes of the participants, and the older adults commonly referred to using these computers to find information. Further, the interviewers observed that computers located in the county public libraries were heavily used (which made it difficult for the interviewers to use these computers to check their e-mail while in the field).

## Self-Regulatory Model

Previous studies have paid little attention to reasons why older adults use herbs, and some have neglected to address the reasons for herb use altogether. This analysis is based on the premise that herb use, as well as the use of other complementary therapies, is one component of the health self-management practiced by older adults. The Self-Regulatory Model (Leventhal et al., 2004) suggests factors that affect the process of incorporating herbs into health self-management regimens; these factors are older adults' knowledge of herbs, their understanding of symptoms, and their self-perception of their health. Knowledge about herbs is necessary for their use, but knowledge alone does not determine whether or not older adults will incorporate herbs into their health self-management regimen. This analysis provides insight about why older adults initiate or discontinue herb use. Several older adults discussed herbs, but stated that they did not use them due to having access to conventional health care, beliefs about their efficacy, and not experiencing a noticeable change in health after their use. Their knowledge of symptoms or conditions and their self-perception of health provide representations of their illness and produce goals for health self-management behavior. Older adults used herbs as a component of the treatment of symptoms and conditions and for illness prevention and health promotion because they believed that the herbs will improve or maintain their current health status.

Pragmatism arose as an important component of health self-management decision making among the participants. As the Self-Regulatory Model would predict, older adults initiate and discontinue use of an herb for very practical reasons. Users of traditional or commercial

herbs initiated herb use in hopes of treating symptoms, chronic conditions, or for illness prevention and health promotion. If the herb produced favorable results as judged by the participant, then they continued its use. Use of an herb was discontinued if they could not acquire the herb or because they judged that the herb was ineffective.

This analysis uses four components of the Self-Regulatory Model in explaining herb use among older adults: their knowledge of treatments; beliefs or explanation for how an individual acquires a symptom, state, or illness; their beliefs about controllability and the extent to which a symptom or condition can be treated, or controlled, and their knowledge or understanding of their health. Different skills and resources are needed to acquire remedies. Further, there are potential disparities in access to herbs, in particular commercial herbs, between urban and rural older adults. Therefore, the cultural foundation of elders in rural North Carolina must be considered in interpreting these results.

## Limitations

This analysis uses qualitative data from a small sample of rural older adults, and it reflects the limitations of qualitative research. Participants are representative of community dwelling African American and white elders living in south-central North Carolina and generalizations to other populations must be made with caution. Participants were not randomly selected, and statistics are not applied to these data. However, the sample of 62 participants is relatively large for qualitative analysis, and participants were recruited from 26 sites.

## Implications

This study is important for future research on health self-management and the use of complementary therapies among older adults. It documents that older adults differentially use traditional and commercial herbs, with traditional herbs being used for acute symptoms and commercial herbs being used for chronic conditions and health promotion. Although statistical analysis is outside the scope of this study, results support findings of other studies, suggesting that older women use herbs for health more than do older men. As with other studies, it finds that older women use herbs for health more than do older men. Traditional and commercial herbs are used by both African American and white older women. As Arcury and colleagues (2007) argue, most research on herb use has been limited to commercial herbs known to the college educated, urban, and generally white researchers. Therefore, this research has reported greater herb use among white, educated women. The results of the present study show that traditional herb use is very prevalent among rural women. Future research needs to broaden the questions used to examine other factors leading to variation in the use of herbs and possibly other complementary therapies. Other factors that might be related to variation in herb use in rural communities that should be considered are educational attainment and other measures of social class, as well as cultural models of health and health self-management.

These results have clinical importance. The older adults who are using herbs have not abandoned conventional medical care; to the contrary, they value conventional medical care and they use it extensively. However, the continued use of herbs may interfere with the use

of therapies prescribed by conventional health care providers. Herb-drug interactions are also possible, but rare (Bardia, Nisly, Zimmerman, Gryzlak & Wallace, 2007; Ness, Johns & Nisly, 2003). Therefore, understanding why older adults initiate or discontinue use of these herbs is relevant to medical care providers, as it gives insight into the complexities of their health plan decision making. Despite concerns about the efficacy and safety of herbs, health care providers need to know about patients' herb use in order to design the most effective health care plan for each patient.

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**Table 1**

Traditional or Commercial Herb Use by Ethnicity and Gender

| Herb Use | Total n= 62 | African American Women n= 17 | African American Men n=13 | White Women n=16 | White Men n=16 |
|---|---|---|---|---|---|
| Any Herbs | 29 | 10 | 5 | 10 | 4 |
| Traditional Herbs Only | 16 | 5 | 3 | 5 | 3 |
| Both Traditional and Commercial Herbs | 7 | 3 | 1 | 3 | 0 |
| Commercial Herbs | 6 | 2 | 1 | 2 | 1 |
| No Herbs | 33 | 7 | 8 | 6 | 12 |

**Table 2**

Purpose and Number of Users of Frequently Used Traditional or Commercial Herbs

| Herb | Purpose of Use | Traditional or Commercial | Number of Users |
|---|---|---|---|
| Aloe Vera | Burns and scrapes | Traditional | 8 |
| Ginger | Nausea and upset stomach | Traditional | 6 |
| Echinacea | Immune system support | Commercial | 6 |
| Mint Tea | Indigestion and upset stomach | Traditional | 5 |
| Green Tea | Concentration and memory | Commercial | 5 |
| Catnip Tea | Sleep | Traditional | 4 |
| Ginseng | Memory | Commercial | 4 |
| Garlic | Blood pressure control | Traditional and Commercial | 3 |
| Chamomile Tea | Sleep and depression | Traditional | 3 |