Published in final edited form as:

Gerontol Geriatr Educ. 2014 ; 35(4): 337–353. doi:10.1080/02701960.2013.844693.

An In-Depth Analysis of How Elders Seek and Disseminate Health Information

Kathryn P. Altizer, MS¹, Joseph G. Grzywacz, PhD¹, Sara A. Quandt, PhD², Ronny A Bell, PhD², and Thomas A. Arcury, PhD¹

¹Department of Family and Community Medicine, Wake Forest University School of Medicine

²Department of Epidemiology and Prevention, Division of Public Health Sciences, Wake Forest University School of Medicine

Abstract

This study documents older adults' sources of health information, describes the purposes for health information seeking, and delineates gender and ethnic variation in health information seeking. Sixty-two African American and white adults age 65 and older completed qualitative interviews describing their use of complementary therapies. Interviews identified how individuals obtained and shared health information. Friends, not family, were the dominant source of health information. Participants ranged from active seekers to passive consumers of health information. Information seeking was common for benign symptoms. More women than men discuss health information with others. Friends are the primary source of health information for rural older adults. There is substantial passivity in the pursuit of health information. Identifying health information sources of rural older adults can support the dissemination of information to those who share it with others.

Keywords

Health information seeking; older adults; Rural; African American; health communication

Introduction

Family and friends are important sources of individuals' health information, (Fisher & Naumer, 2005; Redmond, Baer, Clark, Lipsitz, & Hicks, 2010). Using family and friends to

All correspondence on this manuscript should be directed to Ms. Kathryn Altizer, Department of Family and Community Medicine, Wake Forest School of Medicine, Medical Center Boulevard, Winston-Salem, NC 27157-1084. kaltizer@wakehealth.edu. (336) 716-7416.

Kathryn P. Altizer, MS, Department of Family and Community Medicine, Wake Forest University, Medical Center Blvd., Winston-Salem, NC 27157. kaltizer@wakehealth.edu

Joseph G. Grzywacz, PhD, Department of Family and Community Medicine, Wake Forest University, Medical Center Blvd., Winston-Salem, NC 27157. joseph.grzywacz@okstate.edu

Sara A. Quandt, PhD, Department of Epidemiology and Prevention, Division of Public Health Sciences, Wake Forest University School of Medicine, Medical Center Blvd., Winston-Salem, NC, 27157. squandt@wakehealth.edu

Ronny A Bell, PhD, Department of Epidemiology and Prevention, Division of Public Health Sciences; Maya Angelou Center for Health Equality, Wake Forest School of Medicine. 22 Miller Street, Winston-Salem, NC 27157. rbell@wakehealth.edu

Thomas A. Arcury, PhD, Wake Forest University School of Medicine, Department of Family and Community Medicine, Medical Center Blvd., Winston-Salem, NC 27157. tarcury@wakehealth.edu

obtain health information is particularly preferred by older adults, many of whom are simultaneously managing multiple chronic conditions (Cotton & Gupta, 2004; Ramanadhan & Viswanath, 2006). Among rural adults, social networks are particularly important to the exchange of health information (Arcury, Grzywacz, Ip, Saldano, Nguyen, Bell, et al., 2012). Individuals with similar life experiences or health conditions may share knowledge and experiences that others, including family, cannot understand (Arcury et al., 2012). Acquiring health information can occur in both formal and informal social contexts that are not intended as venues for health information exchange, yet the exchange arises through the social encounter (Pettigrew, 1999; Fisher et al., 2005). Examples of formal and informal contexts of health information exchange include obtaining health information before or after worship services, in the workplace, and while having lunch with friends. These illustrations are consistent with the more general precept that people use well-established habits to acquire health information, habits that frequently prioritize ease of access and interpersonal trust of the source (Harris & Dewdney, 1994; Case, 2002).

Research describing, much less understanding, older adults' health information seeking behavior is generally absent from the well-developed literature documenting that informal sources of health information are preferred and widely used by older adults. Previous research clearly describes individuals, frequently women, as central nodes or informal sources of health information within a community (Colon-Ramos, Atienza, Weber, Taylor, Uy, & Yaroch, 2009), whether it is for general health knowledge or more specific knowledge such as complementary therapies or traditional remedies (Arcury, Grzywacz, Stoller, Bell, Altizer, Chapman, et al., 2009). Less clearly delineated are the process and mechanisms by which older adults obtain and potentially become disseminators of health information.

Understanding older adults' health information seeking and sharing behavior has substantial theoretical and practical value. Theoretically, the exchange of health information has both general and specific implications. The potential differences in how different subpopulations exchange health information likely contributes to persistent health disparities observed by gender, race, or socioeconomic status (Ackerson & Viswanath 2009). More specifically, the exchange of health information is one mechanism by which social networks are presumed to affect health outcomes (Ackerson & Viswanath, 2009; Berkman & Glass, 2000). Thus, a clearer understanding of how health information is exchanged can offer insight into health disparities, including the mechanisms by which the social environment "gets under the skin." A better understanding of how health information is exchanged also has practical implications, as it may inform strategies for minimizing the diffusion of poor or potentially threatening health information or improving the diffusion of useful health information.

This analysis has two central aims. First, this analysis aims to improve understanding of older adults' health information seeking behavior. Second, this analysis aims to enhance the understanding of cultural factors that can contribute to a meaningful design of geriatric health education programs. To achieve this goal we emphasize two salient attributes of information seeking behavior: breadth and intensity. By breadth we mean the number and variety of venues or sources for acquiring information. Intensity refers to the level of effort expended by individuals in the acquisition or exchange of health information. It is expected

that the older adults in this study will vary on both the breadth and the intensity of their health information seeking. The primary aims of the analysis are to: document older adults' sources of health information, to describe the purposes for health information seeking, and to describe the variation in effort given to health information seeking.

Methods

Sample

This study was conducted in three south-central North Carolina counties. The counties represent variation on the urban-rural continuum (<http://www.ers.usda.gov/Data/RuralUrbanContinuumCodes/>), such that one is in a metropolitan area of 250,000 – 1 million population, one is a non-metropolitan county with urban population of 20,000 or more adjacent to a metropolitan area, and one is a non-metropolitan county with urban population of 2,500–19,999 adjacent to a metropolitan area. A site-based procedure (Arcury & Quandt, 1999) was used to implement the ethnographic sample design to recruit participants who reflect the range of knowledge, beliefs, and practices in the community (Werner & Bernard, 1994). We recruited 62 participants with approximately equal numbers of African American and white women and men from across the study counties that served different ethnic and social groups. Data collection occurred until saturation was reached and no new insights were gathered. Participants were recruited from 26 sites that 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. Attention was also paid to participants' educational attainment and migration history in recruitment. We asked participants about their migration history because living in different regions could shape social network size and individuals' activities within those networks. Migration history has three categories: non-migrants, return migrants, and in-migrants. Non-migrants had lived their entire life in the same community. Return migrants were born in the study area but had moved to other areas such as other cities in North Carolina, New York City, New Jersey, and various other places in the US and abroad for work or military deployment, before returning to their native communities. In-migrants had lived in various places within North Carolina. This categorization method based on migration history has been applied in other research (Arcury, Grzywacz, Neiberg, Land, Nguyen, Altizer, et al., 2010).

Data Collection

Data collection was completed over a nine month period (February through October, 2007) by five trained interviewers. Interviewers conducted the interviews 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. In-depth tape recorded interviews ranged in length from about one hour to three

hours. The Wake Forest School of Medicine Institutional Review Board approved all study activities.

Interview Content

The main focus of the in-depth interview was to capture information about the use of complementary therapies and the beliefs surrounding use of these therapies. More detailed information about the interview content has been published (Arcury et al., 2009). A substantial component of the interviews sought to identify where individuals obtained information about health conditions and treatment, as well as the extent to which people shared that information. The context in which people shared health information was questioned. In particular, participants were asked what type of health information is shared with each other; where these conversations take place; who do people talk to other than a health care provider; who are the people who talk about health and illness; do men or women talk more about health and illness; and are there lay people in the community who are asked for advice about health and illness. To understand better community standards about the use of complementary therapies, participants were asked to what extent people discuss different types of therapy use and where people learn about such therapies.

Data Analysis

Data analysis was based on a systematic, computer assisted approach (Arcury & Quandt, 1998). Atlas.ti 6.0 software 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 and 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. There was a high level of inter-rater agreement in the coding process although no rate of inter-rater agreement was calculated. Instead, discrepancies were discussed as a team during project meetings. More often than not, discrepancies were due to errors of omission, not inclusion. While data were not quantifiable, relevant themes were highlighted and evaluated for salience.

Results

Participants

Interviews were completed with 17 African American women, 14 African American men, 15 White women, and 16 White men. They included 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. Although participants varied in education, income, and migration status, these characteristics were not related to their sources and seeking of health information. More descriptive demographic information is included in Table 1.

Sources of Health Information

Friends were the dominant source of health information for older adults. Family was notably missing as a source of health information. Participants described how friends frequently shared information about health, including basic information about illnesses or specific symptoms. In most of the situations described, participants talked about how conversations at churches or other recreation sites for older adults oftentimes shifted to health topics.

I think when you become friends with a different group of people and you know, especially women, women's groups, I can't ever think of when I go to Presbyterian Women's Group that something like that isn't discussed. Somebody doesn't show up because they're sick or something, you know. Oh, wonder what she's taking or wonder if she's been to the doctor or you know, I tried this or I tried that and maybe we ought to call her and see what she's taking. That's the way. It's just like recipes. (PART042, White Female, More than High School Education)

However, in some instances the transmission of health information within group social settings was purposeful and intentional. For example, one African American female described how her church provides health related seminars, the most common social setting for older adults. To ease the potential for discomfort, men and women have separate meetings.

...women will have it [seminars at church] like on Saturday and the next Saturday men will have a seminar so they can get to ask about things that women wouldn't talk about around men and the men some things they wouldn't talk about around us, so I carry my husband and leave him so he can ask questions. (PART 029, African American Female, Less than High School Education)

Health information was also obtained from several media sources. The dominant media source for health information was television programming. In most cases, health information was disseminated as part of a broader message: it typically was not focused on health content.

Interviewerdo you know how it's [L-tyrosine] supposed to help your memory?

Respondent No. It's supposed to just give your body the thing, the natural substance, that are low that cause the memory loss...I got it from a doctor on television, Dr. Perone on "Eye on Health"...Well he just said these help restore our natural functions. There are several things he advocates. (PART041, White Female, High School Education)

Print sources of mass media were also sources of health information for older adults. Although several participants described how they obtained information about illnesses or disease from the newspaper, comparatively more participants described books or magazines that were regularly used for health information. Many participants maintained and were eager to show interviewers their "library" of health-related resources.

Respondent I've got a big library. I love to read, and I get a hold of a medical book,

Husband She's got cases full of them.

Respondent I'll get a hold of a medical book and read it. My husband had emphysema and I read up on that to see what that incurred and I've taken care of him for fifteen years and his doctor told me I made a good doctor. (PART033, White Female, Less than High School Education)

Although less widely used than television or print materials, several participants expressed a general belief that computers and Internet were sources of health information, in large part because they allow individuals access to previously unavailable information on specific health topics of interest. Nevertheless, there was a noteworthy absence of participants' discussions about how they personally used the Internet to gather health information:

...and I would think television and computer has brought a lot of information for people they never had before, because they can access it, especially computer.
(PART006, White Female, More than High School Education)

Older adults also rely heavily on health care providers for health information. Participants reported receiving health information from a wide variety of providers, including doctors, nurses, physician assistants, and pharmacists. In most cases, physicians were seen as the definitive source of health information, especially about treatments for chronic conditions like heart disease or diabetes. However, there were also a noteworthy number of older adults who did not defer to health care providers as the definitive sources of information about health. In some cases participants enacted alternative practices rather than modern medicine,

...I think I might refer to it as energy reception or something...I do know that I can receive energy from nature. From being in nature...You know that old saying about tree hugging and stuff like that? A tree will give you energy if you go to a tree and put your hands on it and ask for energy, you can receive energy from a tree...When I was so confined with this knee, I was in the house totally for a couple of weeks and got really stressed, really depressed, really out of my element...so I decided that what I needed to do was I had to get outside...so I had my son set up the porch in such a way so that I got outside and in contact, you know, everywhere you look there's nature...Yeah and that reenergized me. It centered me again. (PART045, White Female, High School Education)

In other cases participants questioned the provider's motivation for sharing the information.

Interviewer When you use these different remedies or tonics, what do you tell your regular doctor?

Respondent I don't tell him nothing. They'd be surprised...Well if he would ask me did that hurt or something, I would tell him "no" and then he would ask me "well, wonder what stopped it from hurting," then I might would tell him, but since he don't ask I don't tell him...I feel like he's the doctor, he should know, but a lot of things doctors don't know about these old remedies and sometimes, some doctors is against old remedies because that's going to cut their money off. (PART014, African American Male, Less High School Education)

Purpose of Health Information Seeking

There was variation in the reasons for health information seeking. Many older adults engaged in health information seeking when they were confronted with unfamiliar new or novel symptoms. If the new symptoms were viewed as benign or non-threatening, older adults used their social networks, typically friends and peers, to obtain information.

...you know when you get to looking at me, saying man what's wrong with you? You're looking dull. I say, well my stomach's been bothering me... You come up with something I can do, tell me to do it... Well, take this here and they describe something or other home remedy, something that they say, 'if this don't help it then you need to go to the doctor. (PART019, White Male, Less than High School Education)

However, if the symptom was viewed as being serious, older adults were more likely to seek advice from a health professional, although in most cases the advice seeking was more akin to "fix me" than "give me information".

...The only time that I have any chest pains is when I get kind of aggravated and stressed. That kind of stress causes you to have pain in your chest... whenever I get that and I know I have stress I try to see a doctor, to see my regular doctor for that because I know I can't go on with the pain because sometimes it really hurts and it ain't been long since I had that and I know stress will kill you quick as anything else...(PART011, African American Female, Less than High School Education)

Older adults also consulted a health care provider when they did not know of an appropriate or effective treatment or when a known treatment did not work.

If I have something on hand that I know will work, I'll use it. Otherwise, I'll go to the doctor. (PART021, White Female, High School Education)

Less common was information seeking from friends and peers for treatment, or ongoing management of chronic medical conditions. More often than not, participants turned to their health care providers for advice on treatment of chronic conditions, as the health professional was presumed to be more knowledgeable of medical conditions.

I've always felt like he [doctor] knew what he was doing and I should follow his directions and not Grandpa's. (PART060, White Male, High School Education)

Least common was information seeking for health promotion or strategies to reduce the likelihood of subsequent illness or disease. When older adults talked about information for health promotion, they frequently referenced historical information such as experiences during childhood.

Respondent Way, way back my, who was that, my grandmother, my grandmother used to say take a little teaspoon of vinegar it'll help to keep your pressure down.

Interviewer Did she say why it help to keep your pressure down?

Respondent No, she didn't because back in them days you didn't ask your mother all these questions...you go on and take it. (PART043, African American Female, High School Education)

The few individuals who did seek out this information on contemporary forms of health promotion were generally more health oriented or focused.

I think probably it [Goji juice] gives you an extra edge against cancer and things like that because of the antioxidants and things...I read about it in one of my herbal magazines and ordered some and my son is on it in particular. I make sure that he stays on it all the time and one of the things it does is supposedly helps you fight against depression and I think it helped him do that. (PART044, White Male, More than High School Education)

Active Versus Passive Information Seekers

Participants expressed a clear range of effort put into health information seeking. Some older adults actively sought health information, whereas others passively consumed this information. Active health information seekers deliberately sought information about health from a broad variety of sources and incorporated a large volume of health information relative to their peers.

I guess what you have a natural affinity for is what, somehow you get led to. If you are meditating and really trying to plug into that universal knowledge that's out there, if you're really open, you'll be led to where you need to go and that was all a part of it, I think. I started reading, you know. Certain articles in magazines that I would see would catch my eye, or I would be at the bookstore and certain book would catch my eye and it was generally within a theme. You know the meditation, the natural living, taking care of your own body, herbs, things like that. (PART045, White Female, High School Education)

Within this group there were some women, African American and white, who portrayed themselves as nodes of health information. They were contacted when others had health-related questions, as they were known throughout the community for having health knowledge. These women arrived at this status in different ways, typically by way of medical education or life experiences. These experiences across time made them better prepared to be nodes of health information.

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..." (PART029, African American Female, Less than High School Education)

Evaluation of acquired health information was imperative for health information seekers. As a result of the increasing amount of available health information, some participants expressed concern about the quality of information they received. Critical thinking about presented information was common among those who were actively engaged with the health information they received.

... I've just gathered these [remedies] as I went along from my readings and studying and watching things on health programs.... I think you have to make a decision of what you will take and what you won't take and for what reasons. (PART041, White Female, High School Education)

Passive health information consumers were open to health information but did not actively seek it.

Interviewer Are there other kinds of remedies you've heard about for arthritis?

Reviewer You know what, dealing with the Senior Centers I'm sure I heard tons...Tons of it, you know? But, you know, after a while you just, you file that and move on. (PART045, White Female, High School Education)

They evaluated and sometimes incorporated acquired health information into their health management. A greater proportion of men than women were passive consumers of health information.

Women versus Men: Differences in Information Seeking Behavior

There were notable difference in the breadth and intensity of information seeking by gender. Several participants stated that older women regularly engaged in discussions about health information. These discussions occurred across settings. It was suggested by numerous participants that whenever older women gather, the conversation inevitably addressed health issues.

...anywhere we go, my wife's friends will be talking about some ailments. (PART049, White Male, More than High School Education)

Conversations about health were less common among older men. For a variety of reasons, men typically chose not to discuss their health with other men. Reasons cited for this lack of discussion included, "It's none of their business;" "They don't want to hear it;" and "Others will tell you what to do." Instead, they chose to discuss their health with only health care providers or their wives.

Respondent I've heard women talk about their health. I ain't heard too many men talk about it. I think they're ashamed to.

Interviewer Why might they be ashamed?

Respondent If they're like me, they just don't want to talk about it.

Interviewer So, if you had an ache or pain or something, who would you talk to about it other than a regular medical doctor?

Respondent My wife. (PART054, White Male, Less than High School)

Discussion

This qualitative analysis focused on the sources and strategies that older adults used to obtain health information. A substantial portion of these older adults participated in health information sharing. The association between health behaviors and social networks is well documented (Colon-Ramos, et al., 2009; Fisher et al., 2005; Ackerson & Viswanath, 2009). Research describing the exchange of health information within these social networks, however, is generally missing. Our goal was to improve understanding of the variation in older adults' health information exchange, in order to inform future health education efforts.

Our results suggest that friends are the primary source of health information for rural older adults. Unlike past research (Colon-Ramos, et al., 2009; Rains, 2007), family was not a central source of health information for our participants. An analysis of older adults with diabetes in the same counties indicated that they received more self-management help from "other relatives" and friends than from children (Arcury, Grzywacz, Ip, Saldana, Nguyen, Bell, et al., 2012). The one exception was a small group of men who turn to their wives for health information. Results from other studies suggest that family is a primary source of health information. However, participants in previous studies were much younger than participants in the present study; therefore, it is possible that older adults may have fewer family members to turn to or that family members may be primarily younger individuals with less experience than older adults' seek. However, data to confirm this were not collected. Rurality should also be considered as a factor in the absence of family as a central source of health information for our participants. For many older adults, children have moved out of the area to attain employment because of difficulties finding work in rural areas. As the number of proximal family members decreases, older adults shift their focus to maintaining ties in social groups made up of friends and community peers (Arcury, Quandt, Bell, 2001). The importance of peers and friends for health information is particularly salient among rural older adults who have less access to medical care and formalized sources of health information (Stoller, Grzywacz, Quandt, Bell, Chapman, Altizer, et al., 2011). Family and friends have been combined into a single variable in some research (Hesse, Nelson, Kreps, Croyle, Arora, Rimer, et al., 2005), but among our participants, these are clearly two independent sources of health information.

An important finding from this study is the enduring importance of traditional print media to the current generation of older adults. Yet, among these older adults we find some also using electronic media. The number of individuals using electronic media for health is far greater for those aged 55–64, than among those 65 and older (Fox & Duggan, 2013). Further, those using electronic media for health information increases when there is a concern for a specific health problem. While print media and television were the predominant media sources used, some older adults commented that the Internet has made it easier to obtain health information, somewhat defying the stereotype of rural adults lacking knowledge or skills necessary for the Internet. Yet, even among those older adults who actively sought health information, more traditional sources of media like books, newspapers, and television programming were preferred, which should be taken into account by health educators. While this study finds that older adults prefer other mediums of accessing health information than

online, it should be acknowledged that, consistent with other research, more older adults are accessing online health information (Montague, Zulman, & Lawrence, 2011).

A second finding from this study is the substantial passivity in older adults' pursuit of health information. These results indicate that when providing health education to older adults, particularly rural older adults, health educators should be direct and emphasize the importance of information because many older adults are not actively seeking information. Some past research described health information acquisition as an issue of access to information. Ramanadhan and Viswanath (2006) try to explain information seeking within the context of communication inequality, which they define as disparities among social classes and racial and ethnic groups in access to and use of information channels, attention to health content, recall, knowledge, comprehension of health information, and capacity to act on relevant information" (Ramanadhan and Viswanath, 2006). Contrary to other literature (Cutli, 2007; Kivits, 2004) our data suggests that while many older adults have access to health information, a portion of them simply are not engaged in acquiring, synthesizing, or applying that information. This finding is compelling because it calls into question the general assumption that having health information is a desired end point. It also raises questions about how to disseminate information to a market that does not demand it. Even if some of our participants who lack access to health information were provided access, it is unclear whether or not they would utilize this access. It has been shown that a sizable proportion of ailments experienced by older adults are attributed to old age (Sarkisian, Liu, Ensrud, Stone, and Mangione, 2001). Thus, passivity may reflect the notion that some health issues are not a condition requiring attention, rather it is part of the body "acting its age." Another potential explanation of passivity may be that as health literacy is positively associated with social support, older adults lacking in social support have potentially lower health literacy than older adults who have adequate social support (Lee, Arozullah, Cho, Crittenden, and Vicencio, 2009). Understanding the varying degrees of information seeking, or non-seeking, among these older adults may help bridge any existing gaps in health between those who are active, passive, or non-seekers of health information.

In this study, health information sharing was not related to ethnicity. About the same proportion of African American and White women, and African American and White men participated in health information sharing; highlighting the lack of ethnic differences among our study participants. There were no differences in health information sharing related to migration status. As past research indicates, far more women than men in our study actively participated in health information seeking (Carlsson, 2000; Weaver, Mays, Weaver, Hopkins, Eroglu, & Bernhardt, 2010). Older women in this study comprise the informal health care system that many older adults utilize. A partial explanation for this finding is that, historically, women have assumed the role of caretaker. Health information seeking, for themselves or others, perpetuates this role. Also, it may reflect their desire to understand health information as a resource to support better quality of life or successful aging (Manafa & Wong, 2012). Further, men commonly neglect to visit a health care professional when ill or fail to report the symptoms of illness or disease. Women rely more on social ties for the acquisition of health information than men, and this may delay their decision to seek health information from a health care provider; delaying more effective treatments (Grzywacz et al., 2011). While women were more involved in health information seeking than men, there

was notable passivity among the majority of older adults in the study regardless of gender. Although consistent with previous research suggesting that “watchful waiting” is a common health self-management strategy (Stoller, Forester, Follow, & Tisdale, 1993), it is counter to the common notion that people are quick to begin searching for health information when symptoms or illnesses arise.

It is clear from this analysis that many older adults seek health information, especially when presented with health problems. This observation is consistent with the health self-management literature, and approaches like the Self-Regulatory Model (Leventhal, Halm, Horowitz, Leventhal, & Ozakinci, 2004), which posits that people are active in solving health-related problems. However, in contrast to the presumption that most individuals engage in active problem solving, we found that older adults were relatively passive in their acquisition of health information. This suggests that seeking health information, via formal or lay networks, may not be a dominant strategy for health self-management. While past research has focused on health information seeking for the treatment of chronic conditions (Ackerman & Viswanath, 2009), older adults in this analysis primarily sought information in an attempt to manage a new or seemingly benign health condition, taking more serious health concerns to a health care provider. However, little evidence in our data indicated that health care providers were seen as sources of health information per se, as much as agents for change. When older adults wanted to feel better, they would visit a health care provider.

This study has several limitations. First, this study uses qualitative data from a small sample of rural older adults; and the study design and analysis reflect the inherent limitations of qualitative studies. Second; participants were representative only of rural older adults living in south-central North Carolina and we cannot generalize beyond this population. Third; the central focus of the interviews was to gather information about older adults’ use of complementary therapies. Within this conversation, participants were asked how they acquire or share health information. It is possible that participant responses were influenced by the overall focus of the interview. Lastly, participants were not randomly selected; and statistics are not applied to these data. However, the sample of 62 participants was relatively large for qualitative analyses; and participants were recruited from 26 sites.

This study considers health information exchange among rural older adults, a subject that has not been well described in past research. Results indicated that friends, not family, were the most common source of health information; and most older adults had a relatively passive approach to acquiring health information. Both these findings have important implications for health care professionals; including health educators.

Health information seeking was not related to ethnicity or migration history suggesting a common cultural influence that is more reflective of characteristics of their rural community than ethnicity (Arcury, Quandt, & Bell, 2001). Results were also unrelated to educational attainment. Women in these communities are more invested in the acquisition of health information than men; some are considered health experts or “nodes” of health information. This has an important implication for the growing need of culturally competent geriatric health educators. Friendship networks or other leaders can be invaluable to the dissemination of health information. Understanding the reliance older adults have on social

networks will prepare health educators to tailor programs to meet their needs; help older adults help each other. The “nodes” of health information in various communities act as lay health mediators and foster social cohesion (Abrahamson, Fisher, Turner, Durrance, & Combs, 2008). Equipping these “nodes” of health information with accurate health information or access to such information can create much needed lay geriatric health educators. While they comprise only a small portion of the population, these lay-persons in the community play a role in the discussion of health information and have a vital role in the increasing importance of geriatric health education. These results indicate that, when providing health education to older adults, particularly rural older adults, health educators have three primary tasks. First, they should provide health information in forms that are most appropriate for their audience, print media or otherwise. Second, given the general passivity of many older adults, health educators should be direct and emphasize the importance of active health information seeking. Lastly, health educators should partner with the widely used friendship networks and lay intermediaries for a broader dissemination of accurate information.

Acknowledgments

This research was made possible by funding from the National Center for Complementary and Alternative Medicine (R01 AT003635).

References

- Abrahamson JA, Fisher KE, Turner AG, Durrance JC, Combs TC. Lay information mediary behavior uncovered: exploring how nonprofessionals seek health information for themselves and others online. *Journal of the Medical Library Association*. 2008; 96(4):310–323. [PubMed: 18974809]
- Ackerson LK, Viswanath K. The social context of interpersonal communication And health. *Journal of Health Communication*. 2009; 14(S1):5–17. [PubMed: 19449264]
- Arcury TA, Quandt SA. Qualitative methods in arthritis research: Sampling and data analysis. *Arthritis Care Research*. 1998; 11:66–74. [PubMed: 9534496]
- Arcury TA, Grzywacz JG, Ip EH, Saldana S, Nguyen HT, Bell RA, Kirk JK, Quandt SA. Social integration and diabetes management among rural older adults. *Journal of Aging and Health*. 2012; 24(6):899–922. [PubMed: 22764154]
- Arcury TA, Grzywacz JG, Neiberg RH, Lang W, Nguyen HT, Altizer KP, Stoller EP, Bell RA, Quandt SA. Daily use of complementary and other therapies for symptoms among older adults: Study design and illustrative results. *Journal of Aging and Health*. 2010; 23(1):52–69. [PubMed: 20937796]
- Arcury TA, Grzywacz JG, Stoller EP, Bell RA, Altizer KP, Chapman C, Quandt SA. Complementary therapy use and health self-management among rural older Adults. *Journal of Gerontology: Social Sciences*. 2009; 64B(5):635–643.
- Arcury TA, Quandt SA, Bell RA. Staying healthy: the salience of health maintenance behaviors among rural older adults in North Carolina. *Social Science & Medicine*. 2001; 53:1541–1556. [PubMed: 11710428]
- Berkman LF, Glass T, Brissette I, Seeman TE. From social integration to health: Durkheim in the new millennium. *Social Science & Medicine*. 2000; 51(6):843–857. [PubMed: 10972429]
- Carlsson M. Cancer patients seeking information from sources outside the health care system. *Support Care Cancer*. 2000; 8:453–457. [PubMed: 11094989]
- Case, DO. Looking for information: a survey of research on information seeking, needs, and behavior. Amsterdam: Academic Press; 2002.

- Colon-Ramos U, Atienza AA, Weber D, Taylor M, Uy C, Yaroch A. Practicing what they preach: health behaviors of those who provide health advice to extensive social networks. *Journal of Health Communication*. 2009; 14(2):119–130. [PubMed: 19283537]
- Cotton SR, Gupta SS. Characteristics of online and offline health information seekers and factors that discriminate between them. *Social Science & Medicine*. 2004; 59:1795–1806. [PubMed: 15312915]
- Cutliff C. Health literacy in geriatric patients: An integrative review of the literature. *Orthopedic Nursing*. 2007; 26(1):43–48. [PubMed: 17273109]
- Fisher K, Naumer C. Something old, something new: preliminary findings from an exploratory study about people's information habits and information grounds. *Information Research*. 2005; 10(2)
- Grzywacz JG, Stoller EP, Brewer-Lowry NA, Bell RA, Quandt SA, Arcury TA. Gender and health lifestyle: an in-depth exploration of self-care activities in later life. *Health Education & Behavior*.
- Harris, RM.; Dewdney, HP. *Barriers to information: how formal help systems fail battered women*. Greenwood Press; Westport, Connecticut: 1994.
- Hesse BW, Nelson DE, Kreps GL, Croyle RT, Arora NK, Rimer BK, Viswanath K. Trust and sources of health information: the impact of the Internet and its implications for health care providers: Findings from the first Health Information National Trends Survey. *Archives of Internal Medicine*. 2005; 165:2618–2624.
- Kivits J. Researching the 'informed patient:' The case of online health information seekers. *Information, Communication & Society*. 2004; 7(4):510–530.
- Lee SD, Arozullah AM, Cho YI, Crittenden K, Vicencio D. Health literacy, social support, and health status among older adults. *Educational Gerontology*. 2009; 35:191–201.
- Leventhal, H.; Halm, E.; Horowitz, C.; Leventhal, EA.; Ozakinci, G. Living with chronic illness: A contextualized, self-regulation approach. In: Sutton, S.; Baum, A.; Johnston, M., editors. *The Sage handbook of health psychology*. London, UK: Sage; 2004. p. 197-240.
- Manafa E, Wong S. Exploring older adults' health information seeking behaviors. *Journal of Nutrition Education and Behavior*. 2012; 44(1):85–89. [PubMed: 22101129]
- Montague E, Zulman DM, An LC. Trust in the internet as a health resource among older adults: Analysis of data from a nationally representative study. *Journal of International Medical Research*. 2011; 13(1):e19.
- Pettigrew KE. Waiting for chiropody: contextual results from an ethnographic study of the information behavior among attendees at community clinics. *Information Processing and Management*. 1999; 35:801–817.
- Rains SA. Perceptions of traditional information sources and use of the World Wide Web to seek health information: findings from the Health Information National Trends Survey. *Journal of Health Communication*. 2007; 12:667–680. [PubMed: 17934943]
- Ramanadhan S, Viswanath K. Health and the information non-seeker: a profile. *Health Communication*. 2006; 20(2):131–139. [PubMed: 16965250]
- Redmond N, Baer HJ, Clark CR, Lipsitz S, Hicks LS. Sources of health information related to preventive health behaviors in a national study. *American Journal of Preventive Medicine*. 2010; 38(6):620–627. [PubMed: 20494238]
- Sarkisian CA, Liu H, Ensrud KE, Stone KP, Mangione CM. Correlates of attributing disability to old age. *Journal of the American the American Geriatrics Society*. 2001; 49:134–141.
- Stoller EP, Grzywacz JG, Quandt SA, Bell RA, Chapman C, Altizer KP, Arcury TA. Calling the doctor: a qualitative study of patient-initiated physician consultation among rural older adults. *Journal of Aging and Health*. 2011; 23:782. [PubMed: 21311048]
- Stoller E, Forester L, Pollow R, Tisdale W. Lay evaluation of symptoms by Older people: an assessment of potential risk. *Health Education Quarterly*. 1993; 29:505–522. [PubMed: 8307769]
- Weaver JB, Mays D, Weaver SS, Hopkins GL, Eroglu D, Bernhardt JM. Health information-seeking behaviors, health indicators, and health risks. *Research and Practice*. 2010; 100(8):1520–1525.
- Werner O, Bernard HR. Short take 13: Ethnographic sampling. *Cultural Anthropology Methods*. 1994; 6:7–9.

Table 1

NCCAM Demographics

	White			African American			Total		
	Females		Males		Female		Males		
	n	%	n	%	n	%	n	%	
Total	16		16		17		14		63 100.0
Age									
65–69	4	20.0	2	10.0	5	25.0	9	45.0	20 31.7
70–74	4	28.6	6	42.9	4	28.6	0		14 22.2
75–84	7	33.3	7	33.3	4	19.0	3	14.3	21 33.3
85 and older	1	12.5	1	12.5	4	50.0	2	25.0	8 12.7
Mean Age	74.6		75.1		76.1		72		
Education									
< HS	3	15.8	2	10.5	7	36.8	7	36.8	19 30.2
HS	4	22.2	5	27.8	5	27.8	4	22.2	18 28.6
>HS	9	34.6	9	34.6	5	19.2	3	11.5	26 41.3
Income									
Low	1	07.1	2	14.3	8	57.1	3	21.4	14 22.2
Moderate	14	31.1	13	28.9	9	20.0	9	20.0	45 71.4
High	1	50.0		50.0	0		0		2 03.2