Published in final edited form as:

Public Health Nurs. 2005 ; 22(4): 323–331.

Complementary Therapy Use Among Older Rural Adults

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Abstract

Objective—Explore use, cost, and satisfaction with the quality and effectiveness of complementary therapy among older rural adults.

Design—Descriptive survey.

Sample—A random sample of 325 older adults from rural communities throughout Montana and North Dakota.

Measurements—Participants were interviewed by telephone.

Results—Only 57 participants (17.5%) had used complementary providers and most sought this care for chronic problems, heard about providers through word-of-mouth information, and were satisfied with the care. A total of 35.7% (116) used self-directed complementary practices and most used these practices for health promotion, heard about them through informal sources, and found them to be at least somewhat helpful. Of the 325 participants, 45.2% (147) used some form of complementary care, e.g., providers, self-directed practices, or both. Participants used as much complementary care as is found in national studies. Most spent relatively little out-of-pocket for complementary care.

Conclusions—Understanding the health care choices that older rural residents make, including complementary health care, is paramount for a comprehensive approach to meeting their health care needs.

Keywords

alternative therapy; complementary therapy use; older adults; rural health

In the past several decades, there has been extraordinary growth in the attention paid to complementary therapy, in both the popular and the research arenas. Complementary therapy has been defined as a group of diverse health care systems, practices, and products that are not presently considered an integral part of allopathic health care (National Center for Complementary and Alternative Medicine, 2004; <http://nccam.nih.gov/health/whatiscom/>). Examples include therapies provided by practitioners such as chiropractic, acupuncture, and

massage therapy, as well as self-directed practices such as nutritional and herbal supplements, meditation, and use of magnets.

The fact that U.S. residents are using complementary therapy and that this use has grown over the past several decades is well documented in the literature (Astin, 1998; Eisenberg, Davis, Ettner, & Appel, 1998; McFarland, Bigelow, Zani, Newson, & Kapan, 2002; Paramore, 1997; Wolsko et al., 2000). Between 1990 and 1997, the use of complementary therapy in the United States increased by 25%, and 1997 expenditures grew to approximately \$21.2 billion, with more than half of this amount out of pocket (Eisenberg et al., 1998). This exceeded the 1997 out-of-pocket spending on hospitalizations. Complementary therapy has become sufficiently mainstreamed for coverage by several health insurance plans ("Hospital plunges," 1996). Therapies that, in the past, were used as a last resort for chronic illnesses are now used as primary treatments (Paramore, 1997). These trends have far-reaching implications for community/public health nurses and other health care professionals who assist community-dwelling clients with the management of their health care needs and problems.

Based on national studies, it appears that complementary care is used more often for chronic health problems than for acute problems and the use is more common among women than men, younger adults than older, those with higher incomes and more education, and those living in the West than in other parts of the United States (Astin, 1998; Astin, Pelletier, Marie, & Haskell, 2000; Cherniack, Senzel, & Pan, 2001; Eisenberg et al., 1998). Another finding consistent across multiple studies is the fact that many of those who used complementary therapy sought treatment for the same health problem from allopathic providers but did not inform these providers of their complementary therapy use (Eisenberg et al., 1993; Eisenberg et al., 1998; Vallerand, Foulabakhsh, & Templin, 2003). Some studies indicate that the use of complementary care is associated with dissatisfaction with allopathic care (Kelner & Wellman, 1997; McGregor & Peay, 1996; Vincent, 1996), whereas others found that the use is due to congruency of values, beliefs, and philosophical orientation rather than dissatisfaction with allopathic care (Astin, 1998).

In contrast to the numerous studies about complementary therapy use in the general U.S. population, much less is known about the use of these therapies among rural residents. National studies generally do not report rural versus urban comparisons and some have focused primarily on urban samples (Astin, 1998; Eisenberg et al., 1993; Eisenberg et al., 1998; Paramore, 1997). Only one national study was located in which some rural versus urban comparisons are reported (Barnes, Powell-Griner, McFann, & Nahin, 2004). These investigators found that urban adults were more likely to use alternative medicine than rural adults. Some investigators have explored the use of folk remedies among rural subgroups such as Mexican Americans, rural West Virginians, and rural women (Cook & Baisden, 1986; Johnson, 1999; Martinez, 1978; Trotter, 1981). One study focused on the use of chiropractors in one state, and investigators found that rural residents who were older, had chronic health problems, and reported difficulty getting physicians' appointments were more likely to use these services (Cleary, 1982). In another study, a sample was drawn from patients in five rural physician practices and the investigators found that 63% of respondents used complementary care (Harron & Glasser, 2003). In another study, pain self-treatment patterns in one state were explored. It was found that suburban and urban dwellers were more likely than rural residents to use complementary therapy to treat pain, despite all groups reporting equally severe pain (Vallerand et al., 2003).

Improving knowledge about the use of complementary therapy by older rural adults is particularly relevant because older rural residents have been shown to be more independent, engage in more self-care, have less access to allopathic care, and have a higher prevalence of chronic health conditions than their urban counterparts. Complementary therapy could have

beneficial effects when used alone or in combination with allopathic health care, could have no effect, or could be contraindicated in other situations. Understanding the extent to which older rural dwellers choose complementary care, in addition to allopathic care, is paramount for a comprehensive approach to meeting their health care needs.

To address gaps in the literature, the “Health Care Choices” study was conducted with older adults living in sparsely populated rural areas in Montana and North Dakota to explore use, cost, and satisfaction with the quality and effectiveness of complementary therapy. The purpose of this article is to describe the “Health Care Choices” project and present the descriptive findings.

Methods

Design

A descriptive survey design was used to examine use, cost, and satisfaction with complementary therapy among older adults living in sparsely populated rural areas in Montana (2.5 persons/square mile) and North Dakota (8.6 persons/square mile). A random sample of 325 older adults from 19 rural communities was interviewed by telephone. Data from a 20th community were used as a pilot of the study procedures.

The study was conducted by a team of four investigators located at two universities on three separate campus sites. The Human Subjects Institutional Review Boards at both institutions reviewed and approved the study. Undergraduate and graduate students were involved in the study from planning through analysis. Students actively participated in research team meetings, pilot tested the interview guide, and conducted many of the telephone interviews. One undergraduate student published a paper based on her participation in the study (Coloff, 2003) and two graduate students completed projects based on the study which served as partial fulfillment of their master’s degree requirements.

Sample

The goal of the sampling procedure was to obtain an adequate sized, representative sample of older rural dwellers evenly divided between Montana and North Dakota and proportional to the distribution of people 60 years and older in rural areas of the two states. For purposes of this study, rural was defined as a town with a population between 500 and 20,000 and not within 25 miles of a center of commerce of 20,000 people or greater. All towns meeting these criteria were identified from census data. Distinct differences in economic and cultural characteristics and population density exist between the eastern and western portions of the involved states. To obtain a sample that was representative of this diversity, each state was divided into two strata (east and west) and five towns were randomly selected from each stratum (20 total towns, 10 from each state, and 5 from each stratum). The resulting 20 towns were distributed across both states and included large to small rural communities with a range of eligible populations of 582 to 5 persons.

Inclusion criteria for participation in the study were that persons be 60 years of age or older with a mailing address and telephone listing in one of the selected towns. Many participants lived on farms or ranches and were included in the sampling frame because their address and telephone was listed in one of the towns. Names, telephone numbers, and addresses for households headed by persons 60 years of age and older were purchased from Senior Source, a commercial listing service. This service obtains names from public sources, such as drivers’ licenses, telephone books, and voting records, and guarantees at least a 90% accuracy rate in the listings.

A power analysis (based on an estimated 33% probability of use of complementary care) revealed a required sample size of 320 participants; thus, the goal was at least 160 completed interviews from each state for a total combined sample of 320. The number of interviews from each town was calculated based on the proportion of eligible individuals living in the town.

Study procedures

An interview guide was developed to elicit information addressing the study aims. The interview guide was pilot tested with a convenience sample of older rural adults and revised, based on their input. The questions included forced-choice and short answer responses about the use of allopathic and complementary health care, as well as satisfaction, effectiveness, and costs attributed to complementary therapy use. The interview guide included separate questions on the use of complementary providers as well as self-directed complementary practices, or “home remedies” administered to self rather than by a provider. Standard definitions of “complementary providers” and “self-directed complementary practices” were provided during the interview. Participants then responded about the use based on their interpretation of the definitions. Additional questions generated data on related issues such as health status, health problems, reasons for seeking care, distance from health care, and demographics.

Scales were included to assess spirituality and health-related quality of life. These characteristics were measured due to support in the literature that, for some people, spirituality and health status are associated with health care choices. Reed’s Spiritual Perspective Scale (SPS) (Reed, 1986a, 1986b) was used as the measure of spirituality. The SPS is a 10-item scale that measures participants’ perceptions of the extent to which they hold certain spiritual views and engage in spirituality-related interactions. The scale has been shown to have consistent high reliability across adult groups (> 0.90), and criterion-related validity and discriminant validity have been reported (Reed, 1986a, 1986b). In this study, the reliability coefficients for the SPS were $\alpha = 0.93$ and standardized item $\alpha = 0.94$. The Medical Outcomes Study Short Form 12 Scale (SF 12) (Ware, Losinski, & Keller, 1996) was used as the measure of health-related quality of life. The SF 12 instrument was modified, retaining all of the original items, with changes made to response options to better match the format of other questions in the interview guide. The adapted scale had a maximum score of 56 in contrast to a maximum score of 47 on the SF 12. In the study reported here, the reliability coefficients for the adapted scale were $\alpha = 0.86$ and standardized item $\alpha = 0.87$.

The MSU Rurality Index (Weinert & Boik, 1995) was used to assign a degree of rurality for each participant. This index is calculated using county population from census data and distance to emergency care as reported by the participant. Average rurality for the group is reflected in a score of zero, with positive scores indicating a more rural residence and negative scores indicating a more urban residence relative to the group of residences under study.

Telephone interviews were completed over a 5-month period by the investigators, student volunteers, and students employed by a university survey research center. Several weeks before telephone calling, preparatory activities were conducted in each community to increase the visibility of and interest in the study and hence increase participation rates (Shreffler, 1999). These activities included personalized letters sent to each potential participant, articles in local newspapers, posters for display at Senior Citizen Centers, and follow-up thank-you letters. A consistent letterhead with logo and project title (“Health Care Choices”) was used on all study correspondence. The research team also planned the timing of data collection to avoid typically busy times in rural areas such as spring planting, calving, fall harvest and roundup.

Analysis of data

Data were cleaned, checked, coded, and entered into SPSS for analysis. Scale scores were calculated for the scales discussed above. Descriptive statistics (means and frequencies) were produced to summarize the data and address the specific aims of the study. Although data on the use of complementary care were compared between the two states, to address the aims, responses were examined across all 19 communities as one group.

Results

Characteristics of the sample

A total of 325 older adults participated in telephone interviews, 165 from North Dakota, and 160 from Montana. In all, 469 older rural residents were contacted by telephone; 325 completed the interview and 144 declined or terminated before completion, for a participation rate of 69.3%.

Selected demographic characteristics of the participants are summarized in Table 1. In general, the demographics were similar to those of the older adult populations of the two involved states. Most of the respondents had lived in their current states and communities for much of their lives, with a mean number of years in the state of 60.3 years and in the community of 42.1 years. Scores on the MSU Rurality Index ranged from 2.405 for the most rural to -2.873 for the least rural. Sixty-seven percent of the respondents reported active membership in a church; 30% were Lutheran, 16% other major Protestant religions, and 11% Catholic. The mean score for Reed's Spirituality Perspective Scale was 40.7 with a range of 10–54.

Most respondents reported having some form of health insurance coverage which was not unexpected given that 78.6% were 65 years or older and eligible for Medicare. Despite the fairly low incomes (Table 1), 44.3% ($n = 143$) indicated that they had both Medicare and private insurance coverage and another 15.4% ($n = 50$) had private insurance only. Only 1.5% ($n = 5$) were self-pay only and another 1.5% ($n = 5$) were Medicaid only.

Health status and allopathic health care use

On the global health rating scale, a majority of the respondents (78.3%, $n = 253$) reported that they were in good, very good, or excellent health and participants had a mean score of 46.07 points on the adapted SF 12 Scale. In general, these were active older adults with a majority (63.4%, $n = 204$) engaged in regular exercise, 84.3% ($n = 274$) drove their own cars or walked for errands and appointments, and 36.9% ($n = 120$) were involved in volunteer work. Despite this evidence of positive health status, 64.6% ($n = 210$) indicated they had at least one significant acute or chronic health problem and 32.3% ($n = 105$) reported two or more significant health problems. The most common problems included hypertension, heart problems, high cholesterol, musculoskeletal problems, and diabetes. Most of the respondents (85.2%, $n = 277$) reported that they had a regular allopathic provider and only 4.3% ($n = 12$) reported not seeing this provider for care in the prior year. Nearly all of those with regular providers were satisfied with this care; 95.3% ($n = 264$) rated the care as good, very good, or excellent. Respondents traveled less than 1 mile to 600 miles (one way) to their regular provider, with a mean distance of 28.6 miles. When asked how far they lived from emergency care, respondents reported a mean distance of 14.9 miles (one way).

Use of complementary therapy

As summarized in Table 2, relatively few participants reported using one or more complementary therapy provider(s) in the past year. Among those who used complementary providers, 82.1% ($n = 46$) saw chiropractors. Other providers visited by a few participants each were physical therapists, massage therapists, acupuncturists, and herbalists. More than half

(54.4%, $n = 31$) of those who saw complementary providers sought care for a chronic illness or symptom, and the most common chronic problems for which they saw these providers were back or neck problems/pain (67.5%, $n = 27$). Most (63%, $n = 34$) heard about these providers through word-of-mouth information, and 60% ($n = 33$) said that they told their regular primary care providers that they were seeing a complementary provider. When asked to rate the care they received from complementary providers, 84.2% ($n = 48$) rated it very good or excellent and 76.8% ($n = 43$) indicated that the care was quite helpful or extremely helpful with their health or health problem. Out-of-pocket costs to see these providers in the prior year averaged \$57, with a range of no cost to \$240.

As summarized in Table 2, more than one third of the participants used one or more self-directed complementary practice(s). The most frequently used self-directed practices were vitamins, minerals, herbs, and magnets. Other self-directed practices used by more than one respondent each included glucosamine, garlic, and aspirin. A wide variety of other practices were mentioned by one respondent each. Self-directed practices were used more often for general health promotion (73.9%, $n = 85$) than for treatment of health problems. Those participants who were using self-directed practices to treat health problems generally mentioned chronic problems such as arthritis, back problems, osteoporosis, and macular eye problems. Nearly all (96.5%, $n = 110$) who used self-directed practices used them once or twice per day and most (86.4%, $n = 76$) said that they had been using the practice for more than 1 year. When asked how they learned about the self-directed practice(s), most (60%, $n = 65$) indicated word-of-mouth information, direct consumer marketing, and reading rather than information from health care professionals. A large majority (92%, $n = 92$) of users of self-directed practices indicated that they were at least “moderately helpful” for their health or health problem. They reported spending on average \$19.45 out of pocket in the prior month on the self-directed practice, with a range of no cost to \$200.

Because some respondents used complementary therapists but not self-directed practices, others used self-directed practices but not therapists, and some used both, a variable was constructed to characterize the use of any form of complementary therapy. As summarized in Table 2, slightly less than half used complementary providers, self-directed practices, or both.

When comparing the use of complementary therapy between the two states, some different use patterns were noted. North Dakotans were more likely to use complementary therapists, principally chiropractors than were Montanans. Twenty-three percent ($n = 38$) of the North Dakota participants used therapists whereas only 11.9% ($n = 19$) of Montana participants did so. Montanans were more likely to use self-directed practices than were North Dakotans. Slightly less than half (45.6%, $n = 73$) of the participants from Montana reported using self-directed practices, but only 26.1% ($n = 43$) of the North Dakota participants reported this use.

Discussion

Based on the results of this study, older rural residents use complementary health care although primarily of the “self-directed” type. When they use complementary providers, they tend to use more “main-stream” providers such as chiropractors and physical therapists than more “exotic” providers such as herbalists, aromatherapists, and the like. The availability of more diverse complementary providers in these rural towns is unknown from data collected in this study, although rural residents are known to travel far beyond their local communities to seek health care when they decide it is necessary (Amundson, 1993; DeFrieze, Wilson, Ricketts, & Whitener, 1992). The prominent role of chiropractors in rural communities has been attributed to the fact that rural areas often lack sufficient numbers of other providers (Cooper & McKee, 2003). Physical therapy is often considered allopathic care; however, in this study, if participants considered physical therapists as a type of complementary provider based on their

interpretation of the definition provided during the interview, this was classified as the use of a complementary provider.

In this study, the use of complementary providers was less than national estimates. When the use of complementary providers and self-directed practices are combined, however, the results indicate that older rural residents are using as much complementary care as samples in national studies. As reported in a recent study of national complementary care use, 36% of adults reported using some form of complementary therapy during the prior 12 months (Barnes et al., 2004), as compared with 45.2% in the study reported here. Although data collected in this study did not permit exploration of reasons for this use pattern, it could be that there is a limited availability of complementary providers in rural areas which then limits their use, although there is now generally widespread availability of complementary products and supplements that can be self-administered, and so the use of them is not similarly limited. In addition, national studies have found that older adults are not as likely to use complementary care as younger adults (Eisenberg, 1998). The proportion of older adults in this study who used complementary care is similar or higher than those reported in national studies with all adult age groups.

Most of those who used complementary care in this study spent relatively little out of pocket for it, which is in contrast to the large out-of-pocket expenditures reported in the literature (Eisenberg et al., 1993; Eisenberg et al., 1998). Although the number of respondents who saw complementary providers was small, most shared this information with their allopathic providers which is also in contrast to national studies in which a majority did not. Unfortunately, a parallel question about informing allopathic providers about the use of self-directed practices was not asked of respondents. Other investigations have suggested that people who are dissatisfied with allopathic providers are more likely to use complementary care (Kelner & Wellman, 1997; McGregor & Peay, 1996; Vincent, 1996). In this study, 97% ($n = 128$) of the respondents who used complementary care and also had regular allopathic providers rated their allopathic care as good, very good, or excellent.

Several study limitations deserve mention. Rural residents of two rural states in the same region of the country were included in the study, which may limit the ability to generalize to older adults living in other rural areas. Because this study's sample was derived from a database purchased from a commercial listing service that guaranteed a 90% accuracy rate in the listings, it is probable that some eligible people were excluded from the sampling frame. Because data were collected by telephone interviews, those without telephones, with unlisted numbers or new listings, and with mobile phones only were excluded.

The focus of this study was on one particular segment of the population that has been underrepresented in national studies of complementary therapy use—older rural dwellers. Patterns of complementary therapy use among older rural adults are critical information for those providing and planning health care services for this significant segment of the rural population. The proportion of the population that is elderly is higher in rural counties than in urban and older adults generally have more health problems and thus need and use more health care services (Eberhardt et al., 2002).

The results of this study suggest some important implications for nurses and other health care providers as well as aging service providers and advocacy groups. A majority of respondents reported having significant health problems. In addition, more than one third used self-directed complementary practices, which are by definition self-care in nature and the primary sources of information about these practices were word-of-mouth information, direct consumer marketing, and reading rather than health care professionals. Increased efforts to inform and educate rural consumers about safe and proven methods for meeting health needs and also

ways to avoid scams, fraud, and unethical sales practices could be beneficial for their health as well as their pocket books.

Public/community health nurses are often involved with educating clients about choices and decisions about health care. Increasingly, nurses in general also use holistic approaches in their practice, blending curative and restorative treatment with disease prevention and health promotion—approaches consistent with complementary therapy use. Furthermore, in the rural environment, public/community health nurses are often in a unique position to work among their underserved rural populations. They often provide the only local health education programs, home visits, and screening and wellness services due to shortages of other providers and programs (Pierce & Luikart, 1996). They often have in-depth knowledge of their neighbors and are sought out and trusted to provide health care advice (Davis & Dries, 1993). Educating clients about the potential for adverse drug–herb or drug–vitamin interactions is important in providing care to older adults, particularly those with chronic health problems who are likely to be taking multiple prescription medications and to have aging and/or impaired physiological responses. (Table 3 for online resources about complementary therapies and dietary supplements.) Gaining and maintaining knowledge about complementary therapies and including questions about their use during assessments are also important components of nursing practice. This will lead to improved client care through increased communication about all health care practices—allopathic, complementary, and purely self-help. By improving nurses' understanding of the health care choices made by older rural adults, the results of this study can be used to improve client education and promote open dialogue with rural clients about preferences and options for health care, both traditional and nontraditional, and both provider and self-administered.

Acknowledgements

This research was supported by Grant 1 R15 AT095-01 from the National Center for Complementary and Alternative Medicine (NCCAM), National Institutes of Health.

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Demographic Characteristics of “Health Care Choices” Study Participants (N = 325)
TABLE 1

Characteristics	n	Valid (%)
Gender		
Men	162	51.1
Women	155	48.9
Age (years)		
60–69	142	44.0
70–79	126	39.0
80+	55	17.1
Race/ethnicity		
White	309	95.4
Native American	15	4.6
Marital status		
Married	203	62.8
Not currently married	120	37.2
Educational level		
<High school	81	25.4
High school	114	35.7
>High school	124	38.9
Yearly household income		
\$20,000 or less	100	46.5
\$20,000–\$30,000	46	21.4
\$30,000 or more	69	32.1
Employment status		
Working	88	27.3
Not working, retired	235	72.7

TABLE 2
Use of Complementary Therapy by “Health Care Choices” Study Participants (N = 325)

	<i>n</i>	Valid (%)
Used complementary providers in past year	57	17.5
Used self-directed complementary practices	116	35.7
Used any complementary care ^a	147	45.2

^a“Used any complementary care” includes participants who reported using any form of complementary care, for example, providers only, “self-directed” practices only, or both providers and “self-directed” practices. A total of 26 participants used both.

TABLE 3
Online Resources about Complementary Therapies and Dietary Supplements

http://nccam.nih.gov/health , U.S. National Institutes of Health, National Center for Complementary and Alternative Medicine “Health Information,” includes information on specific therapies and supplements, alerts and advisories, and consumer information
http://www.cfsan.fda.gov/~dms/ds-savv2.html , U.S. Food & Drug Administration, “Tips for Older Dietary Supplement Users,” includes consumer information, risks for elders, spotting false claims, and importance of speaking with health care provider about supplements
http://www.fda.gov/medwatch/safety.htm , U.S. Food & Drug Administration “MedWatch Safety,” site, includes safety alerts for biologics, dietary supplements, and drugs
http://www.drugdigest.org/DD/Interaction/ChooseDrugs , Drug Digest Organization site, includes a database to search for interactions between two or more drugs, herbs, and/or supplements