The Use of Complementary/ Alternative Medicine Therapies for the Self-Treatment of Pain Among Residents of Urban, Suburban, and Rural Communities

April Hazard Vallerand, PhD, RN, Judith M. Fouladbakhsh, MSN, RN, APRN, HNC, and Thomas Templin, PhD

The use of complementary/alternative medicine (CAM) therapies has increased dramatically in the past decade.[1,2] Frequently, these therapies are used to seek relief from pain, one of the most common health problems today. In the United States, 42% of adults experience pain daily, and 89% experience pain monthly.[3] Many people frequently rely on self-treatment of their pain, often utilizing CAM therapies in addition to traditional medications without informing their health care practitioners.[3–5] As the number of medications and herbal products/supplements an individual takes increases, so does the likelihood of experiencing drug interactions.[6]

This brief report describes the occurrence of pain among community residents and identifies the CAM therapies used for self-treatment of pain. Similarities and differences found in urban, suburban, and rural communities are described.

METHODS

Research Design

This exploratory/descriptive study examined the pain self-treatment patterns among urban, suburban, and rural residents through surveys completed at various community sites.

Sample

Two samples, totaling 595, were surveyed: (1) A convenience sample of 108 people from rural Midwestern communities in the thumb region of eastern Michigan and (2) 487 participants from urban and suburban community Midwestern Young Men's Christian Associations (YMCA).

Rural was defined as communities with fewer than 25 000 residents and a population density below 1000 persons per square mile. In the rural convenience sample, subjects were recruited from churches, businesses, and other community organizations.

Of the 487 urban and suburban participants, 316 were urban and 171 suburban residents. Place of residence was determined by zip code. All participants lived in southeastern Michigan. *Urban* was defined as anyone living in Detroit and surrounding communities, using criteria of the distance from the edge of the central city, population density, and industrial makeup. The remainder of the participants were classified as *suburban.*

Selection criteria included an age of 18 years or older, the ability to speak English, and having experienced pain in the previous 2 weeks. The surveys were administered in various settings from June 2000 to June 2002.

Measures and Procedure

We used the Brief Pain Inventory: Short Form, which consists of numerical rating scales asking subjects to rate the severity of their pain in the previous weeks.[7,8] The inventory has numerical rating scales from 0 to 10 (0 being no pain and 10 being the worst pain they could imagine) that ask patients to rate the severity of their pain at its worst in the previous 2 weeks, at its least in the previous 2 weeks, on average in the past 2 weeks, and currently.

Self-treatment modalities, demographic data, and provider awareness were measured by questionnaires developed by the investigators.

RESULTS

Participants

Participants were primarily middle-aged (mean=47 years), White (81%), and female (60%). The majority were married (61%), were employed full or part time (63%), and had incomes evenly distributed from less than $25 000 to greater than $100 000 annually. Significant differences in income were found, with the lowest annual income in the rural population and the highest annual income in the suburban population.

Pain Level

There were no significant differences in rural, urban, or suburban residents in relation to pain levels. The mean scores on a 0–10 scale were 5.7, 3.9, and 2.7 for worst, average, and least pain, respectively. Participants reported an average of 45% of pain relieved with the current self-treatment regimen. Rural participants reported significantly greater pain relief than either the suburban or the urban group ($t_{593}=2.60$, $P=.01$).

Self-Treatment of Pain

Of those surveyed, 76% used some form of CAM therapy, and 28% of the participants took herbal products/supplements. There was a significant relationship between the use of CAM therapies and community type ($\chi^2_2=19.72$, $P=.001$; n=595), with 82% of suburban, 77% of urban, and 58% of rural respondents reporting the use of CAM therapies. Suburban participants took the most herbal products/supplements: 35% of the suburban, 27% of the urban, and 17% of the rural participants took these products ($\chi^2_2=10.01$, $P=.006$; n = 595) (Table 1).

Significant differences were also found in the use of other CAM modalities (Table 2). The suburban group used the most other CAM therapies: 80% of the suburban, 75% of the urban, and 52% of the rural groups ($\chi^2_2=23.69$, $P=.001$; n=595) used such therapies. In addition, individuals younger than 45 years were found to use significantly more other CAM modalities than those 45 years and older ($\chi^2_2=12.71$, $P=.001$; n=595).

Thirty-one percent of participants reported that their primary care practitioner was unaware of their pain self-treatment choices. There were no significant differences by community; however, men were more likely than women ($\chi^2_1=6.52$, $P=.011$; n=595), those younger than 45 years were more likely than their older cohorts ($\chi^2_1=4.83$, $P=.028$; n=595), and non-Whites were more likely than Whites ($\chi^2_1=4.83$, $P=.028$; n=595) to report that their primary care providers were unaware of their pain self-treatment choices.

TABLE 1—Herbal Products and Supplements Used by Study Participants: Michigan, June 2000–June 2002

Product	Users of Product, %		
	Rural	Suburban	Urban
Any herbal product or supplement	17	35	27
Glucosamine	15	18	10
Chondroitin	8	13	6
Saw palmetto	1	1	0
St. John's wort	1	3	3
Shark cartilage	0	1	1
MSM	2	1	2
Ginseng	1	6	3
Arnica	0	2	1
White willow bark	0	1	0
Echinacea	0	11	7
Fish oil/omega-3 oils	1	5	3
Evening primrose oil	0	1	1
Melatonin	1	3	1
Valerian	0	1	2
Ginkgo	0	6	3
Coenzyme Q10	1	3	1
DHEA	0	2	1
Garlic	0	5	6
Soy products	1	6	6
Flax seed oil	0	6	3

Note. MSM = methylsulfonylmethane; DHEA = dehydroepiandrosterone.

DISCUSSION

Despite no differences in pain levels, differences were seen in the use of CAM therapies in different communities. Comparisons of pain self-treatment choices demonstrated that the suburban group used more CAM modalities than either the urban or the rural group. Because many of the CAM therapies are not covered by health insurance and therefore require out-of-pocket payment, these differences may reflect the higher income level of the suburban group. Overall, the average

TABLE 2—Other Complementary/ Alternative Modalities Used by Study Participants for the Self-Treatment of Pain: Michigan, June 2000–June 2002

Modality	Users of Modality, %		
	Rural	Suburban	Urban
Any complementary/ alternative modality	52	80	75
Heat/cold/ice	16	39	30
Exercise/stretching/yoga	15	56	46
Chiropractic treatments	11	10	10
Massage	11	24	29
Magnets	1	5	2
Biofeedback	1	2	0
Relaxation	4	27	27
Prayer/meditation	12	10	17
Healing touch	1	3	3
Color therapy, charismatic healing, Zen, acupuncture, etc.	<1	<1	<1

score for worst pain in the previous 2 weeks was 5.7, indicating moderate to severe pain that could have impaired function. Of even greater concern is that less than half of their pain was being relieved despite their self-treatment efforts.

Of concern is the finding that 31% of the participants had not informed their practitioner of the therapies they were using for pain. This hinders the comprehensive management of pain and may also lead to potentially harmful interactions. With an estimated 1 million drug products available in the United States and an extensive array of herbs and supplements, the potential for interactions increases.[9]

Conclusions and Implications

Many community residents in diverse geographic areas are experiencing pain and using CAM therapies along with traditional therapies to obtain relief. Those who seek out CAM therapies for pain may not realize the importance of informing their primary care practitioner or may hesitate to provide this information for fear of being criticized and misunderstood. Practitioners should strive to elicit comprehensive information about their patients' self-treatment choices and should familiarize themselves with the CAM therapies patients are using. The public must assume responsibility for informed self-treatment and recognize the importance of communicating with all their care providers about their self-treatment choices. ■

About the Authors

The authors are with Wayne State University College of Nursing, Detroit, Mich.

Requests for reprints should be sent to April Hazard Vallerand, PhD, RN, Wayne State University College of Nursing, 5557 Cass Ave, Cohn Bldg 364, Detroit, MI 48202 (e-mail: april.vallerand@wayne.edu).

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Contributors

A.H Vallerand and J. Fouladbakhsh were co-investigators on these studies. T. Templin was the statistician.

Human Participant Protection

These studies were approved by the human investigation committee at Wayne State University.

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