RURAL ELDERLY CAREGIVERS: EXPLORING FOLK HOME REMEDY USE AND HEALTH PROMOTION ACTIVITIES

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Keywords: Health Promotion, Rural Elderly Caregiver, Folk Home Remedies, Emotional Health

ABSTRACT

This exploratory study examined folk home remedy behavior and engagement in health promotion activities in rural elderly caregivers. Data was obtained with a self-report questionnaire, from a probability sample of 80 caregivers (age range = 65-84 years). Results indicated that caregivers were very involved in health promotion activities, except for exercise. Participants had high rates of folk home remedy use. Emotional health was a significant positive predictor of engagement in health promotion activities and an important factor for a healthy lifestyle in the rural, elderly caregiver. The high frequency of folk home remedy use indicates that nursing assessments should include questions about the use of folk home remedies as a measure of health promotion.

INTRODUCTION

Participation in health promotion activities is essential for maintaining health (Pender & Pender, 1996; Pender, Murdaugh, & Parsons, 2002) and is particularly important in at risk groups, such as rural elderly caregivers. While caregiving has been found to be physically and mentally exhausting in any population, unique challenges face the rural individual (Amirkhanyan & Wolf, 2003; Buettner & Langrish, 1999; Farran, Dimitra, Lindeman, McCann, & Bienias, 2004; Jackson & Cleary, 1995; National Alliance for Caregiving and American Association of Retired Persons Survey, 1997; Wallhagen, 1992; Wykle, 1994). Elders living in rural areas may engage less in health promotion activities, such as physical exercise or screening tests as preventive health measures, as compared to their urban counterparts (National Center for Health Statistics, 2002). Rural individuals tend to be older and have more chronic illness and disabilities (Center for Disease Control and Prevention [CDC], 2002; Johnson, 1991; Sanford & Townsend-Rocchiccioli, 2004). Lack of access to health care also puts rural elders at risk (Virning, Moscovice, Durham, & Casey, 2004). Use of folk home remedies may be a response to unmet health care needs in rural elders that may also place them at risk (Averill, 2003; Conley & Burman, 1997; Davis et. Al. 1991). On the other hand, folk home remedy behavior may be considered a health promotion activity by rural elders. To date, little research exists regarding health promotion in this vulnerable population. The purpose of this study was to explore (a) folk home remedy behavior and (b) engagement in health promotion activities in rural elderly caregivers.

THEORETICAL BACKGROUND/CONCEPTUAL DEFINITIONS

This study utilized Pender's Health Promotion Model (Pender, Murdaugh, & Parsons, 2002) as the theoretical basis, thus the variables under study include perceived self-efficacy, perceived barriers, functional health, emotional health, and health promotion activities. The model was extended to include the variables of folk home remedies (Armer & Conn, 2001; Weinert & Long, 1987) and spirituality (Boland, 2000) in order to make the model more applicable to rural elderly population. *Health promotion activities* are actions taken to enhance the quality of life in an interactive process between humans and their environment (Pender & Pender, 1996). Studies have shown that older rural adults do not use positive health practices on a regular basis and seek health care only when illness was perceived as severe (Johnson, 1991; Wright, 1997). Research is needed to investigate factors that may influence the practice of positive health practices in this population.

Perceived self-efficacy or "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391) is a critical factor in the development of favorable health practices in elders (Carroll, 1995; Conn, 1997). Although self-efficacy research began as situation or domain specific (Bandura, 1977), it can also be conceived of as a global construct (Shelton, 1990). *Perceived barriers* (measured as perceived resources in our study) are impediments or deterrents to taking action on the behalf of the individual (Bandura, 1977). Perceived barriers, such as pain and indifference (Resnick, 1998) and lack of information and knowledge (Peters, 1995) have been found to be related to health promotion activities in elders. An interaction between perceived self-efficacy and perceived barriers may impact health promotion activities. Clark (1999) found that as the number of perceived barriers to practicing health activities increased and self-efficacy was low, the health behavior of the individual decreased. *Functional health* or the older adult's ability to perform certain activities (Duffy & MacDonald, 1990) has been found to be enhanced by health promotion activities (Ostchega, Harris, Hirsch, Parson & Kington, 2000). *Emotional health* represents the elder caregiver's level of psychological functioning (George & Gwyther, 1986) and has been found to be negatively effected by caregiving (Wallhagen, 1992; Wright, Hickey, Buckwalter, Hendrix, & Kelechi, 1999; Wykle, 1994). On the other hand, others have found that caregiving can have a positive impact on the caregiver's emotional health in terms of self-esteem and self-satisfaction from fulfilling obligations to the elder and contributing to the elder's quality of life (Nijboer, Triemstra, Tempelaar, Sanderman & Van den Bos, 1999).

Folk home remedies have been defined as any health practices used at home before seeking professional health care assistance (Yoder, 1972), exclusive of over-the-counter drugs (Secrest, 1964). Folk home remedies originate among the people and are contrived from herbs, plants, animal, and mineral substances as well as religious practices and holy words to cure disease and maintain health (Helman, 1994; Jackson, 1976; Secrest, 1964). Weinhart and Long (1987) suggested that folk home remedies may be a primary self-efficacy related response to symptoms of illness and/or practices of health promotion for rural elderly. *Spirituality* is "the need for meaning, purpose, and fulfillment in life; hope/will to live; belief and faith" (Ross, 1995, p. 460). Spirituality is thought to be an important and fundamental aspect of human functioning that positively affects healing and

health (Long, 1997; Parks, 1998), particularly for elders (Reed, 1991; Ross, 1995) and for rural elders (Armer & Conn, 2001).

Little research exists regarding health promotion in rural elderly caregivers. A greater understanding of health promotion activities is needed in order to design health promotion interventions that will contribute to the Healthy People 2010 objective of increasing quality of life in this vulnerable population. In relation to the rural elderly caregiver, the research questions of this study are:

1. What are the types and frequency of folk home remedies used for promotion of health?
2. What is the frequency of participation in health promotion activities?
3. What are the predictors of health promotion activities?

METHODS

A descriptive, cross-sectional design was used to examine health promotion activities, perceived self-efficacy, perceived barriers, folk home remedy behaviors, emotional health, and functional health in rural elderly caregivers. The purpose of this design is to examine relationships that exist in a given situation (Burns & Grove, 2002).

Sample

Approval for this study was obtained from appropriate institutional review boards. A power analysis (alpha level of 0.05) was conducted to determine a sample size of 80. The random sample of elderly caregivers (Table 1) was obtained from the mailing list of the Rosalynn Carter Institute for Human Development (RCI). The RCI focuses on understanding the process of caregiving and discovering new ways to benefit caregivers. The mailing list consisted of 938 caregivers, from a demographic region of 16 rural counties. Each caregiver received a letter explaining the study's purpose, eligibility requirements, risks and benefits of participation, and guarantee of confidentiality.

Subjects received a telephone call based on their random order assignment in the RCI list. Subjects were told that participation was voluntary and if they participated, they may withdraw or stop the interview at any time. Choosing to answer the questions on the questionnaire indicated implied consent to participate in the study. Sample selection continued in this random fashion until the sample size was 80. The inclusion criteria for the sample were: >65 year of age; being a member of the RCI; providing unpaid care to an adult with a physical and/or cognitive impairment, which involved at least two personal care activities daily, for a minimum of 3.1 hours per day, during the past 6 months; telephone access; and the ability to understand English.

Data Collection

Following the random order of the sample selection, each potential participant was contacted by telephone. The interview occurred at the time of the initial call or was scheduled at a time convenient to the rural elderly caregiver. In the event of a "no answer" call for two consecutive days, the next random number was called. To ensure constancy of

Table 1
Demographic Characteristics of Study Sample (N=80)

Variable	Frequency	Percent
Age		
Male	69-79 (range)	
Female	65-84 (range)	
Gender		
Male	9	11.25
Female	71	88.75
Ethnicity		
Caucasian	54	67.50
African-American	26	32.50
Education Level		
< High School	9	11.25
High School Graduate	21	26.25
Some College	25	31.25
College Graduate	25	31.25
Marital Status		
Single	32	40.00
Married	43	53.75
Divorced	5	6.25
Income Level		
< $10,000	9	12.50
$10,000-$20,000	14	19.44
$21,000-$30,000	19	26.39
$31,000-$40,000	15	20.83
$41,000-$50,000	6	8.33
> $50,000	9	12.50
Length of Caregiving		
< 1 year	3	3.75
1-3 years	6	7.50
3-5 years	12	15.00
5-7 years	8	10.00
> 7 years	51	63.75
Caregiving Class in Last Year		
No	70	87.50
Yes	10	12.50
Chronic Illness		
No	4	5.00
Yes	76	95.00

communications, the researcher utilized a formal script in each telephone interview to collect the data.

Instruments

Health promotion activities were measured using the 44-item Health Promotion Activities of Older Adults Measure (Padula, 1997). This tool was designed for use with older adults and addresses health promotion items relevant to older adults. Content validity was established through the review and evaluation of six nursing geriatric experts and nursing faculty. Construct validity was established through factor analysis that demonstrated support for the five subscales. This instrument uses a 4-point Likert response equal-interval scale with responses ranging from always (score of 4) to never (score of 1). The instrument is composed of five subscales: Collaborative Health Management/Injury Prevention, Stress Reduction/Rest and Relaxation, Exercise, Substance Abuse Prevention, and Nutrition. A health promotion activities total score or subscale scores are achieved by summing responses. The higher the score, the more participation in health promotion activities (Padula, 1997). A high Cronbach alpha of .96 was reported with previous studies (Padula, 1997). Cronbach's alpha was 0.80 for this instrument with this sample.

General self-efficacy was measured using the Self-Efficacy Scale. This scale consists of 30 items to which participants respond on a 5 point Likert scale ranging from "strongly disagree" (score of 1) to "strongly agree" (score of 5). Scores were summed. A higher score reflects higher self-efficacy expectations. Construct validity was established through factor analysis and supported through correlations with several personality measures. Previous studies reported a Cronbach alpha score of .86 (Sherer et.al. 1982). A Cronbach's alpha of 0.85 was found in the present study.

Perceived barriers were measured using the Perceived Adequacy of Resources Scale (Rowland, Dodder, & Nickols, 1985), as constructs in this tool were most appropriate to measure the global barriers sought by the investigators. Barriers may be identified as a perception of inadequate resources. This 21-item scale assessed the adequacy of resources categorized as physical environment, health/physical energy, time, financial, interpersonal, knowledge/skills, and community resources. Participants may respond using a Likert scale that ranges from 1 (strongly disagree) to 7 (strongly agree). Scores were summed and a higher score indicated a higher perception of perceived resources or low barriers. Construct validity of this scale was established through factor analysis. Cronbach's alpha in previous studies was .89 (Rowland, Dodder, & Nickols, 1985). A Cronbach's alpha of 0.87 was found in the present study.

Functional health was measured using a 10-item subscale from the RAND Health Survey 1.0. Items were related to the activities that one might do during a typical day, such as *climbing several flights of stairs, walking one, two, or three blocks, bending, kneeling or stooping, lifting and carrying groceries and bathing and dressing oneself*. Participants may respond on a Likert scale that ranges from 1 (Yes, limited a lot) to 3 (No, not limited at all). Scores were summed. This scale has been widely used in populations of younger and older adults. Content validity was established through comparisons to other widely used health surveys while construct analysis was established through factor analysis that demonstrated support for the subscales. Previous studies report a Cronbach's alpha of .93 (McHorney, Ware, & Sherbourne, 1994). A Cronbach's alpha of 0.89 was found in the present study.

Emotional health was measured using a 5-item subscale from the RAND Health Survey 1.0. Items assessed included *feeling downhearted, down in the dumps, calm and peaceful, happiness, and nervousness*. Participants may respond on a Likert scale that ranges from 1 (all of the time) to 6 (none of the time). Scores were summed. A high score defines a more favorable health state. Validity has been established through factor analysis and comparison with other health scales. Previous use of this instrument revealed a Cronbach's alpha of .90 (McHorney, Ware, & Sherbourne, 1994). Cronbach's alpha of 0.82 was found with this instrument with this sample.

The concept of folk home remedy behavior was measured by responses to closed-ended and open-ended questions regarding the use of *home remedies* for any health problem(s). The seven home remedies listed in the closed ended questions were solicited through interviews with two family nurse practitioners who work with rural elders in Georgia. Expert panel review substantiated face validity for this instrument. Subjects were also asked to report the frequency of the use of home remedies in terms of per day, week, month, or year. Scoring is achieved by multiplying the frequency times the total number of home remedies for a summative score. The higher the total score, the higher the self-reported frequency of use of home remedies.

Spirituality was measured using the 10-item Spiritual Perspective Scale (SPS) (Reed, 1987) which measures an individual's perspective on the extent to which spirituality permeates their lives and, also, the engagement in spiritual activities. Each item is rated on a 6-point Likert scale ranging from "not at all" (score of 1) to "about once a day" (score of 6). Scores were summed. An example of an item from this scale is *I seek spiritual guidance is making decisions in my everyday life*. Validity has been established through factor analysis and comparison with other spirituality measures. Previous use of this instrument revealed a Cronbach alpha of .90 (Reed, 1987; Reed, 1991). A Cronbach's alpha of 0.89 was found in the present study.

Data Analyses

Relationships among the study variables were examined to identify problems related to multicollinearity with no evidence between independent variables noted. Descriptive statistical techniques were used to describe the sample, assess the data for violations of statistical assumptions, and to address Research Questions 1 and 2. Multiple regression analysis was used to address Research Question 3.

RESULTS

Frequency distributions were analyzed (Table 2) to address Research Question 1 regarding folk home remedy behaviors and to examine all variables in this study. Prayer, as a folk home remedy, was used by 99% of the caregivers. Twenty-one caregivers (26%) reported taking apple vinegar as a folk home remedy to lose weight. Nine caregivers (11%) indicated that using a honey, lemon and whiskey mixture was helpful for colds, coughing, and sore throat. Five (6.25%) caregivers reported using wild garlic as a folk home remedy.

To address Research Question 2 regarding participation in health promotion activities, a frequency distribution revealed overall high levels of engagement (see Table 3). Specifically, high levels of emotional health, spiritual health, and engagement in health

Table 2
Frequencies of Folk Home Remedies (N=80)

Folk Home Remedy	Frequency of Use	Health Problem	
Apple Vinegar	21 (26.00%)	Aid digestion Constipation Decrease swelling High blood pressure General health General maintenance Joint stiffness	Gout Coughing Leg cramps Insect bites Sore throat Lose weight
Honey, lemon, & whiskey	9 (11.25%)	Chest colds Coughing Sore throat	
Prayer	79 (99.00%)	Aches/pains All health problems Alzheimer's Disease Arthritis Back pain Cancer Colon cancer COPD Depression Emotional health Fibromyalgia Diarrhea Osteoporosis	General health Good health Heart disease Knee pain Mental health Painful feet Piece of mind Energy loss Diabetes Dieting Eyesight Sinusitis
Horse Liniment	1 (1.25%)	Arthritis	
Wild Garlic	5 (6.25%)	High blood pressure Immune system Lower cholesterol Prevent cancer	
Yellow Root	3 (3.75%)	Diabetes High blood pressure Overall health	

promotion activities (except for exercise) were found (see Table 4). Addressing Research Question 3, a multiple regression analysis revealed that emotional health was the sole statistically significant predictor in the model ($b = 0.17$, $p \leq .05$) and accounted for 19% of the explained variance of health promotion activities (see Table 5).

Table 3
Frequency of Engagement in Health Promotion Activities

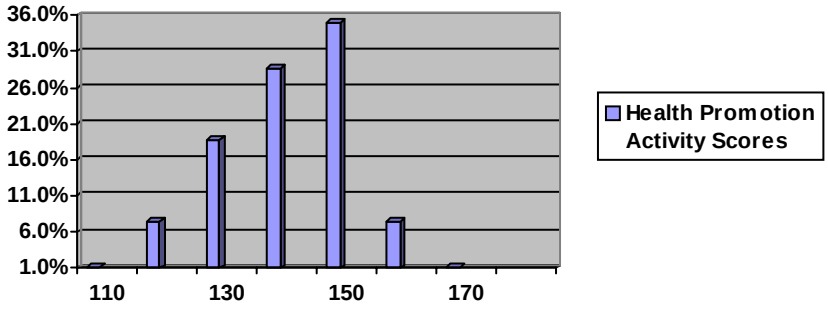
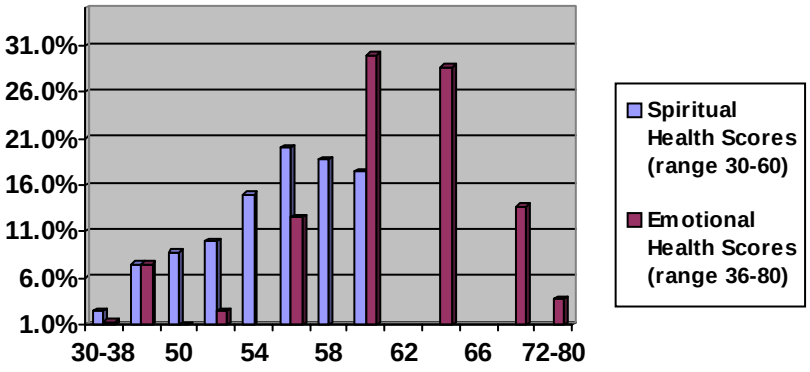


Table 4
Frequencies of Emotional and Spiritual Health



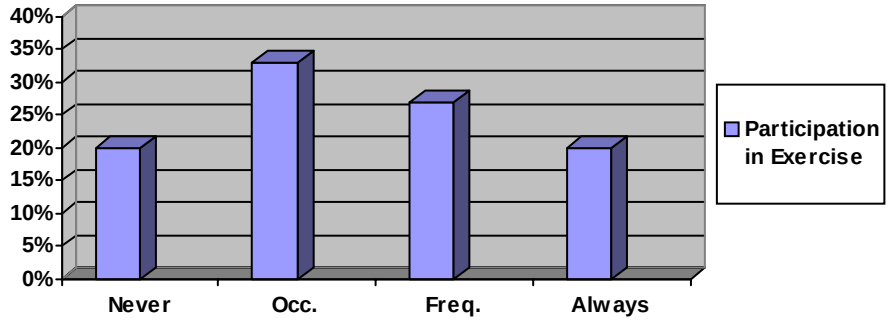


Table 5
Health Promotion Activities Regression Analyses – Regression Analysis of Health Promotion Activity Model ($R^2 = 0.186$)

Independent Variable	Slope (b)	SE	p value
PSE	- 0.81	0.74	0.28
PAR	- 0.60	0.45	0.18
FH	0.01	0.06	0.86
EH	0.17	0.08	0.05*
FHR	0.00	0.01	0.52
SPIR	2.10	2.41	0.38
PSE*PAR	0.01	0.01	0.16

Note. PSE = perceived self-efficacy; PAR = perceived adequacy of resources (measures perceived barriers); FH = functional health; EH = emotional health; FHR = folk home remedy behavior; SPIR = spirituality; * Indicates statistical significance $p \leq .05$.

DISCUSSION AND NURSING IMPLICATIONS

The results of this study may provide new knowledge of how nurses might intervene with rural elderly caregivers to enhance health care outcomes by engaging in health promotion behaviors. The following sections address appropriate nursing interventions as well as the need for future research.

Folk Home Remedy Behaviors

Ninety-nine percent of participants report using folk home remedies for the promotion of their health within the last year. Rural populations learn self-sufficiency in a response to their poor economic status and relative isolation in communities that lack organizations and health care providers (Horner et al. 1994). Perhaps limited access to formal healthcare settings and subsequent self-sufficiency lead these rural caregivers to utilize folk home remedies. On the other hand, cultural influences, rather then economic or health access factors may relate to this finding. The high levels of folk home remedy behavior in conjunction with high levels of health promotion activities suggest that the use of folk home remedies may not be an obstacle to engagement in health promotion activities in these rural, elderly caregivers. However, folk home remedy use should still be a concern for rural health care providers. The high frequency of folk home remedy use indicates that nursing assessments should include questions about the use of folk home remedies as a measure of health promotion. As noted in this study, participants utilized many folk home remedies in addition to regular health care practitioner visits and medications. Folk home remedies may contain natural medications. To avoid complications between folk home remedy behavior and prescribed medications, a query as to the use of folk home remedies should be included in health assessments. Further, asking about the use of folk home

remedies may alert the elderly caregiver that the remedies used may impact their prescribed health care regimen. In addition to providing important health information, questions related to home remedy use demonstrate holistic caring by health care providers (Snyder & Lindquist, 2002).

Frequency of Health Promotion Activities

Overall, participants report a high level of engagement in health promotion activities, which is in contrast to other studies of elders (Dancy & Ralston, 2002; Frank, Stephens, & Lee, 1998; Johnson, 1991). The participants in our study report a high level of engagement in health promotion activities despite having high levels of chronic illness. Seventy-six caregivers (95%) report chronic illnesses, as compared to 85% of elders nationwide having chronic illnesses (Weinstein & Atwood, 1997). Chronic illness did not appear to be a barrier to health promotion activities in the participants, although further research is needed to examine this finding.

Lack of exercise is considered a major health risk factor in elders (Lachman & Jette, 1997). Despite an overall high level of health promotion activity, our findings indicate low levels of exercise. Others have also found low levels of exercise in elders (Dishman, 1994) and in rural elders (Johnson, 1991). Rural elderly caregivers appear similar to other elders, in terms of low levels of exercise. However, these findings suggest that rural elders should also be considered an at risk population, due to low levels of exercise. The low levels of exercise in this study may be related to length of time in the caregiver role. Gallant and Connell (1997) suggest that caregiver health behaviors might decline over the course of caregiving, specifically with a decrease in physical activity. Approximately 64% of the caregivers in our study report providing care for more than seven years. Because of the extensive length of time in the caregiving role, it is not surprising that the majority of the caregivers in this study report a lack of engagement in exercise practices. The low rate of exercise in this sample suggests that health care providers should address the need for increased physical activity for rural elderly caregivers and for researchers to explore the reasons for low physical activity in this population.

Rural health care providers should target physical activity in terms of assessment and interventions. Assessing exercise behavior may be essential for two main reasons: 1) to stress the importance of exercise to an individual's health and 2) to determine the appropriate levels of exercise for that individual. Furthermore, demonstration of concern by nurses for their overall health may assist the caregiver to assign a higher value to their own health needs and possibly decrease the caregiver guilt related to attention to oneself. Counseling regarding the benefits of physical activity in maintaining physical functioning should be directed toward these caregivers.

Emotional Health

Findings of this study indicate that emotional health is a salient predictor of health promotion activities in rural elderly caregivers. While the amount of variance explained by this model is lower than what has been found in the literature (Pender, Walker, & Sechrist, 1990; Weitzel, 1989), this is an exploratory study, which may account for the low amount of explained variance. It may be possible that emotional health enhances participation in

health promotion activities in this population. The high level of emotional health in our study is in contrast to other studies reporting low levels of emotional health (George & Gwyther, 1986). However George and Gwyther's study did include rural elders. The caregivers in our study anecdotally reported feeling strengthened emotionally by the caregiving experience. These findings highlight the importance of emotional health in successful caregiving, particularly in rural elders. Nurses must utilize interventions that support the caregiver, reaffirm the caregiver in the performance of their role, and encourage health promotion activities. Personal satisfaction in the caregiving role may further encourage the caregiver to engage in more health promotion activities so that they might enjoy good health and continue to sustain the caregiving relationship. If caregivers present with decreased emotional health, then nursing interventions might include attempts to increase engagement in health promotion activities, in addition to any needed mental health interventions.

It is interesting that these rural, elderly caregivers report high emotional health in conjunction with high spirituality. Future research is needed to explore the effects of emotional health and spirituality on caregiving and health promotion activities in this population. Rural health care providers should consider interventions that include collaboration with members of the faith community or the provision of respite to allow for spiritual activities. Respite care might be utilized to allow caregivers some personal time or time to attend worship services or other spiritual activities. Perhaps health promotion education classes could take place within the community church or laypersons in the church may be trained to teach health promotion during the home visits to the caregivers.

Limitations of this study should be considered in the interpretation of these findings. This small sample was drawn from only a southern region of the United States. Additionally, the data was obtained by self-report. Although prayer is often considered a type of folk home remedy behavior (Helman, 1994), there may be some overlap between these concepts. Future research is needed to provide a deeper understanding of the folk home remedy behavior phenomenon. This exploratory study provides important insight into folk home remedy behavior and the importance of emotional health in the health promotion activities of rural elderly caregivers. Future studies are needed to investigate barriers to exercise and interventions to promote exercise in these rural elders. Engagement in health promotion activities is essential to the health and quality of life of the rural, elderly caregiver population, in order to sustain the caregiving relationship and maintain the vital service that these informal caregivers provide.

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