

TESTING RURAL NURSING THEORY: PERCEPTIONS AND NEEDS OF SERVICE PROVIDERS

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ABSTRACT

The purpose of this study was to validate concepts from rural nursing theory (Long & Weinert, 1989) by exploring the health perceptions and needs of rural adults employed in service industries and living in communities of less than 1,500 persons. Thirty-eight adults in eleven rural communities participated in interviews asking questions about their health and how they responded to their own illnesses and injuries. Naturalistic inquiry using field research techniques was the method used for the study. Four major themes emerged from the qualitative analysis: definition of health, distance and access to resources, the symptom-action-time line process, and choice. For these participants, being healthy meant being able to function whether at work or play. Distance was a major part of their lives, particularly in accessing prescription medications, health care specialists and emergency care. The symptom-action-time-line process was evident in seeking care for illness and injury. A previously unidentified theme in the rural nursing theory was the concept of choice, choice of residence and choice of health care providers (HCP). Participants chose to live in rural communities because of family ties; others had moved in from other states or, having moved to a more densely populated area, chose to return. Choice of HCP was dependent on availability of resources, time of day, weather conditions, and knowledge of the available quality of care. Implications for practice and recommendations for research and rural nursing theory development are discussed.

INTRODUCTION

The theory development activity and the subsequent publication of the article, “Rural Nursing: Developing the Theory Base” (Long & Weinert, 1989), was founded on qualitative and quantitative studies of health perceptions and needs conducted in the late 1970s and throughout the 1980s. The qualitative studies consisted of interviews conducted principally with individuals working in the extractive industries—farmers, ranchers, and loggers. To extend the earlier qualitative work, the purpose of this study was to explore the health perceptions and needs with adults employed in the rural service sector. To accomplish this purpose, the aims of this qualitative research study were to (1) determine the health perceptions, needs, and practices of service workers living in a sparsely populated rural setting, and then (2) compare the concepts emerging from this study with those in the rural nursing theory base.

REVIEW OF LITERATURE

Rural Nursing Theory

The theory for rural nursing evolved because of a recognized need for a framework for practice that considers perceptions and needs of persons from whom care is being provided (Shannon, 1998). Prior to its inception it was assumed that care of rural persons was similar to the care of persons living in urban environments. The resulting theory contains three statements and their related concepts. The first says that “rural dwellers define health primarily as the ability to work, to be productive, to do usual tasks” (Long & Weinert, 1989, p. 120). Key concepts associated with this statement are work beliefs and health beliefs.

The second statement is “rural dwellers are self-reliant and resist accepting help or services from those seen as 'outsiders' or from agencies seen as national or regional ‘welfare’ programs” (Long & Weinert, 1989, p. 120). Rural persons preferred to seek health care from “insiders,” persons with whom they were familiar. Additional key concepts pertaining to the statement are old-timer and newcomer.

The third statement focuses on health care providers (HCPs); it indicates they experience lack of anonymity and much greater role diffusion than providers in urban or suburban settings. Lack of anonymity also applies to the recipients of health care in rural areas as all persons in that environment have a “limited ability . . . to have [a] private area in their lives (Long & Weinert, 1989, p. 120).

Other concepts important in understanding the health care-seeking behavior of rural residents are isolation and distance from health care. The qualitative data upon which the theoretical work was based indicated that rural residents did not feel isolated despite the fact the fact that descriptive quantitative data revealed they were, on average, 23 miles from their nearest emergency room (Long & Weinert, 1989, p. 119).

Related Nursing Literature

The rural nursing theory article published by Long & Weinert (1989) was and is widely quoted in nursing literature, in community nursing texts and chapters about rural nursing, and in presentations given about rural nursing. However, in a review of the rural nursing literature, only one citation was found that focused specifically on perceptions and needs of rural persons (Bales, 2002a). Her qualitative study findings included four themes previously documented in rural nursing literature--self-reliance, hardiness, community support, and inadequate health insurance--and two new themes, conscious consumer and informed risk taker.

In other recent research studies pertaining to the health of rural persons, the concepts of distance (Pierce, 2001), lack of access (Pierce), use of an informal network (Pierce), familiarity (Magilvy & Congdon, 2000), and self-reliance (Roberto & Reynolds, 2001) were supported. In research articles about rural HCPs, the concept of familiarity led to significantly greater patient satisfaction with nurse practitioner service (Knudtson, 2000) and to more positive practices in pain management and restraint use by rural nurses with older patients (Courtney, Tong, & Walsh, 2000).

METHODS

Setting

Setting Montana is the fourth largest state in the United States and has an overall population density of 6.2 persons per square mile (Census, 2002). According to the 2000 Census, 90.6% of the state's residents are Caucasian; the principle minority population is Native American (6.2%). Farming, fishing, and forestry occupations occupy 2.2% of the population while 42.4% of the population is employed in service, sales, and office occupations (Census, 2002).

Methods

The method used for the study was naturalistic inquiry using field research techniques (Lincoln & Guba, 1983; Miles & Huberman, 1994; Rossman & Rallis, 1998). The researchers used an inductive approach to encapsulate the perceptions of the rural service providers, to learn what they understood about their health and how they managed their day-to-day health care situations (Wolcott, 1982). Using this open-ended approach allowed themes to emerge from the interview narratives (Miles & Huberman, 1994), thereby enabling the researchers to make comparisons with the concepts and statements contained in the rural nursing theory. Interviews were conducted with individuals living in eleven rural towns of less than 1,500 persons who were employed in service occupations in their respective communities. Demographic data and health characteristics of the communities were collected; individual demographic information was collected from each participant. The interview schedule contained open-ended questions asking the participants about their perceptions of health and how they responded to their own illness and injuries.

Procedures

Graduate nursing students enrolled in a first semester rural nursing course are assigned to interview a rural population subgroup to learn their health perceptions and needs. For fall 2000 and 2001, students were invited to participate in a faculty-designed study to gather information from adults employed in service occupations. All students enrolled chose to participate. The study was approved and followed procedures outlined by the MSU-Bozeman's human subjects committee.

Following the selection of a rural community meeting the criteria of less than 1,500 persons, students entered the community to conduct the interviews. The initial interview was usually done with someone known or referred to the student. Additional participants were obtained using snowball or chain sampling, a technique in which the initial interviewee was asked to put interviewers in touch with other persons they knew who were employed in the service sector (Miles & Huberman, 1994). Following an explanation of the study and the signing of a consent form, the interviews were conducted. They lasted 30 to 60 minutes and were audio taped. Once transcribed, the interview narratives were analyzed for themes; the students then wrote and submitted individual papers addressing the themes emerging from their six interviews. In addition, the

transcripts were emailed via attachment on WebCT (distance education web browser) to the faculty. Using the WebCT browser provided more security for the interview contents than the regular internet email. The interview data were subsequently entered into the qualitative software program, QSR Nud*ist (Qualitative Solutions, 1997). Demographic information was entered into the Statistical Package for Social Scientists (SPSS, 2002) to compile descriptive information about the sample.

Analysis

The analysis was conducted using two sources of data, transcriptions and students' papers. Of the 96 interviews conducted by the students, a subset of 38 transcriptions was selected. These 38 interviews were of persons who represented a purposive, homogenous sample of rural persons employed in the service sector. Excluded were interviews conducted with unemployed, retired, or professional persons (those requiring college degrees for their occupation), those not meeting the study criteria of having lived in the rural area for five years, and interviews assessed as "thin."

In this qualitative research, trustworthiness (Guba & Lincoln, 1981; Lincoln & Guba, 1985; Lincoln & Guba, 1986) was established by asking the participants to review and validate the initial data analysis, including sufficient detail so that others can follow the decision trail, and ensuring that the findings were generated from the data itself. There are limitations of the research, including that the information generated may only be applicable to PHNs who practice in rural areas in southern Alberta, Canada. However, given the paucity of theoretical development in this field of nursing (Kulig, 2002), the findings, although limited, contribute to expanding the baseline of knowledge related to community health and public health nursing.

Sample

Of the 38 participants, 14 were male and 24 were female. Thirty-five were Caucasian and three were Native American. Participants' ages ranged from 22 to 85 with a mean average of 49 years. Their years of education ranged from 7 to 18 with a mean of 13 years. Most were living in households with a spouse and one child and were likely to be a member of the Lutheran or Catholic religious faith. Occupations of participants varied widely and included grocery store clerks (n=4) secretaries (n=3), hospital workers (n=3), restaurant workers (n=3), beauty stylists (n=2), kennel attendants (n=2), museum operators (n=2), county employees (n=2), window treatment designers (n=2), and others (n=12).

On the single health perception item with ratings of excellent, very good, good, fair, and poor, the majority rated their health as "good." In response to a question about health insurance coverage, 29 said "yes" and 8 indicated "no;" one individual did not respond.

Participants had lived in rural communities from 5 to 84 years (mean = 34). The population size of the communities ranged from 70 to 1728 persons (One community's population rose from less than 1500 in 1990 census to 1728 persons when the 2000 census was published in October 2001.). The density of the counties in which these rural communities were located ranged from 0.8 to 29.8 persons per square mile. The distance

to the nearest large town ranged from 12 to 250 miles (mean = 60 miles). The distance to emergency care ranged from 0.1 (a local health care clinic) to 110 miles; the average distance was 30 miles.

RESULTS

Four major themes emerged from the analysis of the interviews--definition of health, distance and access to resources, the symptom-action-time-line (SATL) process, and choice. These themes are presented first and are followed by findings related to other rural nursing theory concepts. Included are examples of participant statements supporting each of the themes.

Definition of Health

The health beliefs and values that individuals hold affects how they seek health care, participate in treatment and preventive interventions and develop health promoting behaviors (Long, 1993). Participants were asked to explain their health perception rating and to define "healthy." Overall, the participants stated that being healthy meant being able to function and to "do the things you want to do and feel good at it, both working and playing." For some, qualifiers for being able to do what they wanted included "at my age," "no chronic illness," "no ailments," "you aren't at the doctor all the time," "limited amounts of cold and flu," and "not being overweight." However, many stated they were healthy but also shared that they had chronic illnesses; conditions mentioned included arthritis, obesity, headaches, and heart disease.

For these participants, being able to function included being physically, mentally, and emotionally fit. Staying physically fit included eating right and exercising. Being mentally and emotionally fit included reading and taking "a walk for my mind every day." Pacing their activities was important for those with chronic illnesses. Ultimately, being healthy meant having "quality of life."

Distance and Access to Resources

Distance means the separation (space, time, and behavior) between the rural participants and their health care resources (Ballantyne, 1998; Henson, Sadler, & Walton, 1998). Dealing with distance when accessing health care resources was definitely a part of these participants' lives. Specific areas of concern mentioned were obtaining specialist care, prescription medications, and emergency care.

Specialist Care. While family practice HCPs were usually available within a "fairly short distance," obtaining the care of a specialist meant travel. "You just know that [with] certain diseases [and] you want to stay in this area, you are going to have to travel for treatment." "That's part of living here." Participants reported that many communities benefited from having visiting specialists such as orthopedic surgeons, neurosurgeons, and oncologists. However, if surgery or specialized treatment were needed, travel to the city of the specialist's home base was required.

Prescription Medications. Obtaining prescription medications through a local pharmacy was not an option for many participants. Some mentioned that local

pharmacies had been available in the past; “You know, it used to be you could just go downtown and get what you needed, but there’s nothing here anymore, so it’s hard.” Obtaining a new prescription from the local HCP meant a “hop in the car and drive to [nearest large town/city].” Working full time made it difficult for some participants to obtain their refills; they described getting their refills through the mail or having them hand-delivered by neighbors who were pharmacists or other drug store employees commuting to work at nearby towns.

Emergency Care. Four differing perceptions of thought emerged about accessing emergency care. The first was absolute confidence in the volunteer Emergency Medical Technician (EMT) staff available in the communities to provide care; “. . . they are very dedicated and they really keep the equipment up. I would feel real confident if I had to call them.” Another stated, “I’m totally comfortable if I had to call the ambulance for any reason; I know me or my family will be taken care of.”

The second perception of emergency care contained similar expressions of confidence in the volunteer EMT staffs. However, when queried further about the system, they qualified their enthusiasm about available emergency care by saying it was pretty good “for a rural community.”

The third perception included persons who were not comfortable with the local emergency care available. One participant stated, “We have a lot of activities that can lead to injury. . . . I don’t think we’re adequately staffed. I really think we need a paramedic and better support staff to help him [local physician’s assistant] to do his job.”

The fourth perception came from persons who had a vague idea of the kinds of emergency services available. Responses to questions about the potential occurrence of injury at work or the handling of a large accident included statements starting with “I think.” or “I don’t know.”

The Symptom-action-time-line (SATL) Process

Participants were asked what they would do if they experienced an illness or injury. The interviewers provided examples of illness (flu or cold) and injury (a cut or broken bone). The acronym SATL (symptom, action, time line) describes the process participants used when confronted with illness or injury. The SATL process involves recognition and assessment of symptoms, the decision to act on that assessment, and the time it takes to do so (Buehler, Malone & Majerus, 1998). The time to act, or time line, for the chosen intervention was dependent on the intensity, duration, and degree of disruption in function the participants experienced. Actions included wait and see what happens, “gut it out,” self-care (use of home remedies, over-the-counter [OTC] medications, rest, etc.), consultation with family members, or a visit to a HCP. The decision and time taken before seeking care from the HCP were influenced by the failure of self-care to achieve desired outcomes, the assessment that the condition was beyond their ability to provide self-care, urging of family members, the distance to the HCP, and what their health insurance provided for care.

SATL - Illness. In response to illness such as a cold or flu, actions taken were based on prior experience with the illness, knowledge of what had worked in the past, access to health care, and ability to miss work. Self-care could last for up to seven days before seeing the HCP for “something that was nagging” or “that drug on.” Self-care was

quickly initiated and HCPs were readily seen for symptoms known to require prescription medications or cause the participant to miss work. Choosing to see a HCP also depended on the day of the week participants felt ill, and whether access to medications and health care professionals was available. "It all depends on if it was on a Monday or on a Thursday. Nothing like waiting and putting it off then comes the weekend." If participants became ill and needed OTC medications such as aspirin or Tylenol, they often ". . . have to go without unless it is daytime hours." Because of distance and access issues, participants were prepared. "You should see that medicine cabinet of mine . . . I'm prepared."

SATL - Injury. For injuries, participants assessed the seriousness of the injury, the immediacy of needed HCP care, and the ability to take the necessary self-care actions. For cuts, the length, depth, and the presence of profuse bleeding were assessed. Self-care included using antiseptics to disinfect, pulling the edges together if only a "couple of inches long," and bandaging. Injuries "I didn't think I could put a band-aid on" meant a trip to the HCP. The further away from an immediately available HCP, the less likely participants would access care.

Fractures were assessed for seriousness based on whether the bone was "sticking out" or for "anything that might cause the loss of the use of the extremity." Participants stated they usually drove themselves or had a family member drive to the nearest emergency site because waiting for the arrival of an ambulance doubled travel time.

Choice

A previously unidentified theme in the rural literature emerging from the data was that of choice. Choice, defined as conscious decision making, was evident in two different spheres. The first was choice of residence--choosing to live in a rural area. The second sphere of choice referred to needed services of HCP. It included the knowledge of where and when the resources were available, the skill level of personnel, and weather and road conditions affecting access.

Choice of Residence. Two avenues of thought appeared regarding the choice to live in a rural area. For those who had grown up in the rural area in which they resided, a bond appeared because of family. "I was raised here. My parents were raised here. My grandparents were raised here . . . you know, I belong here, that kind of attitude."

Others who chose to reside in a specific area, either because of having moved into the state or having moved from more densely populated areas within the state stated, "I like it here. It is absolutely beautiful" or "I feel our quality of life here is as good as any place in the state." These choices are made despite having to drive long distances to work and "prices are high." Some commented on people who "come back . . . to retire. When they can afford to, then they come back to the peace and quiet."

Choice of Health Care Provider. After assessing the seriousness of a potential injury or illness, participants determined which resources to use. If a local clinic was available, it was usually the first choice. However, if the local resource was not available due to the time of the day (evenings) or day of the week (closed on weekends), the next decision was which town or city and, sometimes, which direction. Often, direction was dependent on weather and the road conditions. Traveling to a distant city on the plains often won over driving "over a mountain." An exception to this choice would occur if the

highways were icy, and the mountain pass in the other direction was well maintained. Impassible roads in all directions means contacting the nearest consolidated population area hospitals for helicopter transport.

Knowledge of the quality of care available and familiarity with the available resource(s) in the distant town or city also affected the choice. In addition, the assessment of the illness or injury determined whether the open nearby clinic was bypassed because participants knew that distant hospital personnel saw more of that particular illness or injury and could take better care of it. Finally, having family or friends living in a consolidated population area influenced decision making as participants and their families could stay while receiving treatment, thereby decreasing health care costs.

Concepts from Rural Nursing Theory

Concepts emerging from the data that validated those from previous rural nursing theory development included insider, lack of anonymity, and familiarity. Self-reliance, frequently identified in student papers, was observed within the context of participants' discussion of self-care strategies in managing injury and illness.

In the four differing perceptions related to emergency care, the first two groups expressed confidence in their local volunteer EMT staff showing preference for insiders. Their perceptions of the known insiders would guide them in dealing with an emergency; they trusted these individuals to act in their best interests.

Lack of anonymity means "one cannot remain nameless or unknown" (Lee, 1998, p. 77). Several participants commented that living in a small community means "everybody knows who everybody is" and "everyone knows what everyone is doing." "You see people walk into the hospital and you wonder where they are going."

Familiarity "includes the positive ideas of thorough knowledge of or acquaintance with and closeness and intimacy . . . and the contrasting perspective of offensive, unwarranted, intimate conduct" (McNeely & Shreffler, 1998, p. 91). Participants commented that they did not appreciate the familiarity when they were younger because "everybody's in your business." However, they appreciated having the quality as they raised their own children, particularly because of the smaller schools and the availability of one-on-one education.

The lack of anonymity and familiarity influenced some participants as they sought health care. "If I had a problem I didn't want the whole town to know about, I wouldn't go to the [local facility]. . . . There are so many people in the facility and maybe some of them are curious, and maybe somebody is breaking confidentiality." This was particularly true in seeking care for gynecological and mental health problems. In contrasting physical and mental health problems, one participant stated that "people accept a diagnosis of diabetes whereas a diagnosis of clinical depression [means] you are a weak person. . . . It is not really an illness."

DISCUSSION

Definition of Health

The rural persons' definition of health in previous theoretical work was "the ability to work and be productive" (Long & Weinert, 1989, p. 12). This study's findings suggest that work and health beliefs of this group of rural persons differ from those that formed the early theory work. Therefore, the researchers suggest the definition needs to be broadened as participants in this study defined health as being able to do what they wanted to do, whether that included work or play. This finding may relate to the difference between the population samples (extractive occupations vs. service providers) or may be due to changes in perceptions occurring in the 20 years between the 1980s and the beginning of the 21st century. The informants in the earlier studies were more likely to be independent managers of their chosen trade (farmer, rancher, logger); therefore, they focused on the need to work because there no one else was available to do it. If they could not complete the work, they financially could not make it. The persons in this study were more likely to be employed with a small group of people.

Potentially, another factor changing the definition of health is the increased exposure to and emphasis on health, preventive strategies, and the promotion of wellness through the media--television, newspapers, magazines, books, computers, and the Internet. Children bring home information about these topics from school; adults are exposed to this knowledge through their work and other community activities.

Distance and Access to Resources. While distance and access to resources were linked in this paper, distance is only one of many dimensions of access to health care resources (Gulzar, 1999). The concept of access needs further study and conceptualization with regard to the rural environment. Scales to measure some dimensions of access are available; Gulzar recommends that newer and better measures are needed. The concept of access combined with the SATL process (see below) may be the most lucrative in terms of movement of rural nursing theory development.

SATL Process. The SATL process (Buehler et al. 1998) was strongly evident in the findings of this study's data. The identification of this process emerged through a grounded theory study conducted with rural and frontier Caucasian (n=8) and Native American women (n=8). While bearing differing labels, similar processes have emerged in two other grounded theory studies (Bales, 2002b; Koehler, 1998). Bales discovered that remote rural women (N=11) of childbearing/childrearing age followed a similar course of action for themselves and their families; she identified the process as "episodic evaluation" (p. 49). Koehler found a major strategy her rural and frontier elders (N=30) used to protect their independence was "managing [their] illness episodes" (p. 247). The steps included "gauging the seriousness of an episode, deciding on the course of action for the episode, and . . . dealing with distance" (p. 247.).

Because the SATL process was not conceptualized at the time of the earlier rural nursing theory publication, it was not part of that work. The process is very relevant and needs further investigation, both from qualitative and quantitative perspectives. The process lends itself to becoming a focal area in future rural nursing theory development because of the potential for real and actual differences between rural and urban individuals, particularly for differences in time line.

Choice. Deciding to live in a sparsely populated area has ramifications for the availability of health care. Accessing health care resources for rural persons is much more complex than for urban persons because of all the interrelated concepts of distance and accessibility (see discussion above). With the possible exception of the fourth and last group of perceptions about accessing emergency care, these participants were aware how their residential choice effected their health care choices.

Rural Concepts. While the concepts of distance, insider, self-reliance, familiarity, and lack of anonymity readily emerged throughout these interviews, the concepts of outsider, old-timer, and newcomer, were not apparent. Boland (2000) explored the concept of old-timer with elderly persons in small rural communities. Her findings suggest that the old-timers' influence may no longer exist. She attributed her findings to "changes within the community, loss of respect for the elderly, and advances in technology" (pp. ix). Since Boland's study was conducted in one rural locale and with elderly persons, additional exploration of this concept is needed. Also, study of other rural nursing concepts to determine whether they influenced health care as much as seemed evident in the late 1970s and 1980s is needed.

Implications for Practice.

The themes identified from the transcripts--definition of health, distance and access to resources, SATL, and choice--have several types of implications for nursing practice. In view of the change in rural individuals' definition of health suggested by the findings of this study, nursing interventions need to be directed toward helping individuals not only achieve physical fitness but also mental and emotional fitness. During each visit to the HCP, time should be allotted for assessment and discussion of health practices, environmental health concerns, and self-care activities to maintain health. Because of the unavailability of amenities like health care fitness clubs and parks containing walking paths, assisting rural persons to see how they might adapt recommendations to achieve health to their rural lifestyle is needed. Information about activities related to achieving and maintaining a health lifestyle should be available and discussed with each individual.

The themes of choice, distance, and access to resources, are interrelated; persons making the choice to live in a rural area are placing themselves in a position of having to make multiple layers of decisions with regard to health care. Those persons who chose to live "out" as opposed to "close in" to consolidated population areas need to be skilled in self-care practices, prepared to travel to specialists, and bear the increased financial burden associated with increased travel for care. Health care providers need to provide instruction about illness self-care; particular emphasis should be paid to discussions of signs and symptoms that require the attention of the HCP and strategies related to access and distance to care.

Because of the necessity to travel for specialized care, collaboration between local HCPs and distant specialists is essential for the coordination of follow-up care for rural persons and their family caregivers. Rural persons and HCPs share responsibility for open and clear communication about the care received from specialists at distant health care facilities. Given the concerns raised by these participants related to lack of

anonymity, confidentiality of information exchanged during visits with HCPs should be assured and maintained.

CONCLUSION

The choice of a qualitative approach provides an in-depth look at a specific group of individuals. The limitations of the approach are a small sample size and the use of a convenience sample. Therefore, the findings cannot be generalized to the state of Montana or to other sparsely populated areas.

The rural nursing theory base was developed through studies that were generalizable to rural persons living in sparsely populated areas. However, the theory has been generalized to all rural populations, especially from the clinical perspective. Since rural areas are known for their diversity, additional studies of health perceptions, needs and practices of persons living in differing rural areas are needed. Replication of this study is needed in rural states throughout the United States as well as in other nations. While it is known that similar studies have taken place in North Dakota and in Alberta, Canada, access to these studies' findings in the literature is limited by the lack of publications.

Comparison studies with persons living in consolidated population centers located in states with a predominantly rural population are needed. Studies are needed to ascertain whether differences exist between perceived health needs in rural versus urban persons. Studies contrasting health perceptions and needs between differing environments will contribute to the needed base for developing interventions, strategies, and criteria needed for evidence-based nursing practice in both urban and rural settings and for rural persons obtaining care in urban health care facilities.

Several participants in this study were older and dealing with chronic illnesses. Additional information is needed about rural persons and how they use the SATL process in handling the symptoms that accompany their chronic illnesses and how they manage acute exacerbations. This knowledge will assist the health care personnel in rural hospitals to make decisions about keeping patients or transporting them to urban centers. This knowledge will also help nurses and other health care personnel in urban facilities provide the needed education for rural persons in managing their illnesses while living in and returning to the rural environment. The knowledge can be used to influence decision making about needed changes in the present day balance of bringing rural persons to the experts versus bringing the experts to where the rural persons live (Mueller, 2002).

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REFERENCES

- Bales, R.L. (2002a, April). Health needs and perceptions: a study of six persons in Cooke City, MT. *Proceedings of the 35th Annual Communicating Nursing Research Conference, Palm Springs, CA.*
- Bales, R.L. (2002b). *Health perceptions, needs, and behaviors of remote rural women of childbearing and childrearing age.* Unpublished master's thesis, Montana State University-Bozeman.
- Ballantyne, J. (1998). Health resources and the rural client. In H.J. Lee (ed.), *Conceptual basis for rural nursing* (pp. 178-188). New York: Springer.
- Boland, R.L. (2000). *Old-timers: Life in the gulch.* Unpublished master's thesis, Montana State University-Bozeman.
- Buehler, J., Malone, M., & Majerus, J.M. (1998). Patterns of responses to symptoms in rural residents: the symptom-action-time-line process. In H.J. Lee (Ed.), *Conceptual basis for rural nursing* (pp. 318-328). New York: Springer.
- Census U.S. Factfinder. U.S. Census Access. Retrieved October 21, 2002, from <http://factfinder.census.gov>
- Courtney, M., Tong, S., & Walsh, A. (2000). Older patients in the acute care setting: Rural and metropolitan nurses' knowledge, attitudes and practices. *Australian Journal of Rural Health, 8*, 94-10. [MEDLINE]
- Gulzar, L. (1999). Access to health care. *Journal of Nursing Scholarship, 31*(1), 13-19. [MEDLINE]
- Henson, D., Sadler, T., & Walton, S. (1998). Distance. In H. J. Lee (Ed.), *Conceptual Basis for Rural Nursing* (pp. 51-60). New York: Springer.
- Koehler, V. (1998). The substantive theory of protecting independence. In H. J. Lee (Ed.), *Conceptual Basis for Rural Nursing.* (pp. 236-256). New York: Springer.
- Knudtson, N. (2000). Patient satisfaction with nurse practitioner service in a rural setting. *Journal of the American Academy of Nurse Practitioners, 12*(10), 405-412. [MEDLINE]
- Lee, H.J. (1998). Lack of anonymity. In H. J. Lee (Ed.), *Conceptual basis for rural nursing* (pp. 76-88). New York: Springer.
- Lincoln, Y.S., & Guba, E.G. (1985). *Naturalistic Inquiry.* Newbury Park, CA: Sage.
- Long, K.A. (1993). The concept of health: rural perspectives. *Nursing Clinics of North America, 28*, 123-130. [MEDLINE]
- Long, K.A., & Weinert, C. (1989). Rural nursing: developing the theory base. *Scholarly Inquiry for Nursing Practice, 3*, 113-127. [MEDLINE]
- Magilvy, J.K., & Congdon, J.G. (2000). The crisis nature of health care transitions for rural older adults. *Public Health Nursing, 17*(5), 336-345. [MEDLINE]
- McNeely, A.G., & Shreffler, M.J. (1998). Familiarity. In H. J. Lee (Ed.) *Conceptual Basis for Rural Nursing* (pp. 89-101). New York: Springer.
- Miles, M.B., & Huberman, A.M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks, CA: Sage.
- Mueller, K.J. (2002). Rural health policy: past as a prelude to the future. In S. Loue & B. E. Quill (Eds.), *Handbook of rural health* (pp.1-24). New York: Kluwer Academic/Plenum.

- Pierce, C. (2001). The impact of culture of rural women's descriptions of health. *Journal of Multicultural Nursing and Health*, 7(1), 50-53, 56.
- Qualitative Solutions & Research Pty Ltd. (1997). *Non-numerical Unstructured Data Indexing Searching and Theory-building (QSR Nud*ist) (Version 4.0)* [Computer Software]. Thousand Oaks, CA: Scolari, Sage.
- Roberto, K.A., & Reynolds, S.G. (2001). The meaning of osteoporosis in the lives of rural women. *Health Care for Women International*, 22, 599-611. [[MEDLINE](#)]
- Rossmann, G., & Rallis, S. (1998). *Learning in the field: an introduction to qualitative research*. Thousand Oaks, CA: Sage.
- Shannon, A.M. (1998). Developing an educational structure for rural nursing research and theory. In H.J. Lee (Ed.), *Conceptual basis for rural nursing* (pp. 399-407). New York: Springer.
- Statistical Package for the Social Sciences (2002) (Version 10)* [Computer Software]. Chicago: SPSS.
- Wolcott, H.F. (1982). Differing styles of on-site research, or, "If it isn't ethnography, what is it?" *Review Journal of Philosophy and Social Science*, 7(1 & 2), 154-169.