

Perceived Health Status of Farm/Ranch Women

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Abstract

Purposes: To (a) describe the self-reported perceptions of health among a group of farm/ranch women with chronic illness, and (b) examine the women's impressions of the impact of farm/ranch living on their health.

Sample and Methods: A secondary analysis was done with data generated from a paper/pencil survey of 21 farm/ranch women with chronic illnesses who participated in the Women to Women (WTW) computer-based support and health education project at Montana State University during the past decade. Questions were related to perceived general health status, health as it relates to chronic illness, and health problems associated with farm/ranch living and work.

Findings: Farm/ranch women perceived their health positively. In addition to their chronic illnesses, some had illnesses or injuries related to living and or working on a farm/ranch, though few attributed their health problems to the farm/ranch life style.

Conclusions: Rural healthcare providers need to be aware of the challenges faced by farm/ranch women with chronic illness such as: isolation, healthcare access, healthcare costs, fatigue, pain, and feelings of anger and guilt. In response, they must provide preventive counsel for the health risks, e.g., injuries, skin conditions, hearing impairment, respiratory disease, which may be associated with living and working on a farm/ranch.

Keywords: Chronic illness, Farm/ranch health, Rural women

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Background

Farming and ranching, a 24/7 lifestyle, is characterized by work that seems to have no end. Even with its advantages and benefits, this way of life carries health risks to those who till the soil and nurture the beasts that provide the world's population with food (Bolwerk, 2002). Farmers', ranchers', and their families' lives are inextricably bound with the land where they work, live, and play (High Plains/Midwest Ag Journal, 2004). Thus, the nature of the life style carries increased risks for health hazards and injury, especially for women.

There has been a notable rise in the number of women farmers. Thirty percent of the United States farm operators in the 2007 census were women, which was a 19 percent increase from 2002 (U. S. Department of Agriculture, 2007). Women comprise the fastest growing segment of the agricultural population, concurrently seeking off-farm jobs to provide health insurance for the family (Reed, Browning, Westneat, & Skarke, 1999). Women juggle multiple roles on farms and ranches--as housewives, business managers, and reserve labor, as well as off-farm employment and family responsibilities (Gallagher & Delworth, 1993). Attempting to fill all

these roles positions women for high health risks related to the intermittent nature of the work, the number of hours worked, and the presence of a chronic illness.

Farm/Ranch Health Risk Factors for Women

McCoy, Carruth, and Reed (2002) reported that the risk for unintentional injury and illnesses increase for women who participate only intermittently in farm chores because of their unfamiliarity with and ignorance of the exposure and associated safety hazards. Conversely, those women who contributed more than periodic hours to farm work stated that, although they were aware of the health hazards and dangers associated with agriculture occupations, they may not have given adequate safety precautions a priority because of limited time and stress (Bowlerk, 2002).

Added to the unpredictability of and stressors associated with farming/ranching, women's risk of injury is impacted by the amount of time spent doing farm/ranch work (Carruth, Skarke, Moffett, & Prestholdt, 2001). The physiological differences of women, such as being shorter in height, having less strength in the upper body, and being at increased risk for osteoporosis (Engberg, 1993), may make them more likely to: be harmed by large animals; be run over and killed by machinery or hospitalized as a result of injury from machinery; or have fractures after they reach age 60 (Dimich-Ward et al., 2004). If, in addition to these physical disadvantages, farm/ranch women have chronic health conditions that affect mobility, impair their sight or hearing, or decrease their alertness, their risk for injury increases (Carruth et al., 2001).

Impact of Chronic Illness on Farm/Ranch Women

Farm/ranch women with chronic illnesses are distinctively challenged in managing not just their day-to-day lives, but their health as well. Their health care decisions are affected by great distances to health services, inclement travel conditions, and burdensome related costs (Winters,

Cudney, Sullivan, & Thuesen, 2006). Such costs have caused some farm families to delay getting medical or dental care, even for those with private medical insurance or Medicare (Reed, Rayens, Winter, & Zhang, 2008). Other hurdles farm/ranch women face in trying to successfully manage their chronic conditions are excessive turnover rates of rural healthcare providers, limited access to healthcare specialists, and dealing with complex health insurance issues (Cudney, Sullivan, Winters, Paul, & Oriet, 2005; Winters, et al., 2006). Existing with chronic illness is fraught with fatigue, pain, and feelings of depression, fear, and anger. Added to the challenge of managing the multitude of physical and emotional symptoms of chronic illness, is the guilt that many farm/ranch women experience because they may have difficulty meeting the many responsibilities of home, family, and work (Sullivan, Weinert, & Cudney, 2003; Winters, et al., 2006).

Purpose

Although there has been a variety of research investigations related to the health risks associated with farm or ranch work, little research exists on the actual and perceived health status of farmers and ranchers, and even less about that of farm/ranch women. Thus, the purpose of this study was to learn more about the health status and experience of farm/ranch women living with chronic illness. Armed with a better understanding of the factors that influence the health of farm/ranch women, healthcare providers will be more prepared to meet this group's special needs. The specific aims were to: (a) describe the self-reported perceptions of health among a group of farm/ranch women living with chronic illness, and (b) examine the women's perceptions of the impact of farm/ranch living on their health.

Methods

For this study, data from the longitudinal Women to Women (WTW) project were secondarily analyzed (Weinert, 2000; Weinert, Cudney, & Winters, 2005). The WTW intervention was designed to deliver virtual self-help support and web-based health information to rural women as a means of assisting them in their efforts to manage and adapt to chronic illness. Participants in the WTW project were required to have a diagnosis of a chronic health condition and live in a rural area, a small town, or on a farm/ranch at least 25 miles distant from a town of 12,500 or more residents. As part of the WTW project, a sub-study was initiated with one of its goals being to gather specific health information about farm/ranch women. To participate in this sub-study, the women were asked to complete a questionnaire that addressed their perceptions of their current health and health related to the farm/ranch life-style. The WTW research-based project and sub-studies were each approved by the University Institutional Review Board for the Protection of Human Subjects.

Participants

The women who had participated in the intervention groups of the WTW project from 1995 to 2005 were contacted by letter to determine whether they were willing to participate in the sub-project. A total of 21 women who lived on a farm or ranch agreed to participate, and their demographic information, the data collection methods, and data analysis are described below.

All participants were Caucasian and averaged 57.5 years of age (see Table 1). Nineteen of the women were married and seven had dependent children under the age of 18 living at home. The mean number of years in school for the group was 14.9. Individual income varied, with seven women reporting an annual income between \$25,000 and \$34,999; three between \$35,000 and \$44,999; and four with an annual income greater than \$75,000. The mean number of years

since the onset of their primary chronic illness symptoms was 23.1 years with a mean of 19.8 years since diagnosis. Additional demographic characteristics are shown in Table 1.

Data Collection

The questions for the mail questionnaire were based on the past experience of the Women to Women research team and the literature. The questions used in this secondary analysis were selected on the basis of the concepts seen in the literature and to meet the first aim of this study, “describe the self-reported perceptions of health among a group of farm/ranch women living with chronic illness.” The questions chosen addressed quality of life and general health, physical health issues related to chronic illness, impact of chronic illness on activities of daily life, and health status specific to farm/ranch participants. Some of the items were combined to form the Physical Health Issues Scale and the Chronic Illness Impact Scale in an effort to further describe the health status reported by these farm/ranch women living with chronic illness.

Quality of life and general health status. Feedback from two questions was examined to gain insight into the women’s perceptions of their quality of life and general health status. The first, “How would you rate your quality of life at the current time?” was scored on a 10 point scale, ranging from 1 (*poorer than most*) to 10 (*better than most*). The second question was, “How would you rate your health today as compared to one year ago?” This question was also scored on a 10 point scale, ranging from 1 (*much worse*) to 10 (*much better*).

Physical health issues. To better understand the difficulties participants faced in dealing with common physical health problems, questions were analyzed that addressed each of the following nine common physical health issues: vision, hearing, mobility, chronic pain, fatigue, coordination, climbing stairs, holding items, and breathing. The degree of difficulty was indicated on a five-point scale: 1 (*no difficulty*) through 5 (*great difficulty*). The impact of each

potential health issue was examined individually and the nine questions were summed to develop the Physical Health Issues Scale with a range of scores from 9 to 45. The higher the score, the greater the perceived difficulty in handling physical health issues secondary to chronic conditions. The Physical Health Issues Scale had a Cronbach's alpha of 0.83.

Table 1

Participant Characteristics (N=21)

Characteristic	
Age (years)	57.5 (sd) = 7.07
Education (years)	14.9 (sd) = 2.38
Years since onset of symptoms	23.1 (sd) = 10.37
Years since diagnosis	19.8 (sd) = 10.06
Race	
Caucasian	21
Marital Status	
Married	19
Never Married	1
Living Together	1
Income	
Less than \$14,999	1
\$15,000 to \$25,000	2
\$25,000 to \$34,999	7
\$35,000 to \$44,999	3
\$45,000 to \$54,999	1
\$55,000 to \$64,999	1
\$65,000 to \$74,000	1
Over \$75,000	4
Primary Chronic Illness	
Arthritic condition	5
Diabetes	5
Multiple sclerosis	6
Fibromyalgia	3
Lupus	1
Urinary Problems	1

Chronic illness impact on daily life. To determine the impact of the women's primary chronic health problem on daily living, nine common activities were assessed including: household cleaning, recreational activities, participating in activities with friends and family, attending church service or bible study, being present at community events, being active in organizations, having sexual intercourse, going shopping, and performing farm/ranch responsibilities. A 6-point scale was used which ranged from 0 (*not applicable*), to 1 (*small impact*), through 5 (*great impact*). As was done in examining the impact of physical health issues, the individual questions were combined to create the Chronic Illness Impact Scale. The higher the score, the greater the personal perception of the impact of chronic illness on the individual's daily life. Scores on the Chronic Illness Impact Scale could range from 0 to 40, and had a Cronbach's alpha of 0.91.

Health concerns related to farm/ranch life. Consistent with the second aim of the study, a series of health status questions was analyzed to examine the women's perceptions of the impact of farm/ranch living on their health. One question was, "In the past twelve months, have you had any illness or trauma that you suspect might have been related to the farm/ranch environment?" If the answer was positive, a description of the illness or trauma was requested. A second question was, "How would you compare your health to women your age who are not farm/ranch women?" with the possible responses of: *a lot better*, *better*, *about the same*, *worse*, and *a lot worse*.

Further investigation of their experiences with health conditions directly related to living and working on farms and ranches was conducted by asking *yes/no* questions about the incidence of skin conditions, hearing loss, breathing problems, and injuries. If they answered *yes* to any of

the questions, they were asked to describe their specific health concerns and whether they considered their health condition to be related to living or working on a farm or ranch.

Results

The results are reported consistent with the aims. First, the farm/ranch women's perceptions of their quality of life and health are discussed, and second, the impact of farm/ranch living on the women's health.

Quality of Life and Current Health

A report of a positive quality of life and a slight improvement in their health today compared with one year ago (see Table 2) was seen in the women's responses. The mean of the scores for the question, "How would you rate your quality of life at the current time?" was 6.86 (sd = 2.14) of a possible 10. This result indicated that the 21 farm/ranch respondents considered their quality of life to be at least the same to better than most. For the question, "How would you rate your health today as compared to one year ago?" the mean was 6.29 (sd = 1.79) of a possible 10. Thus, the respondents considered their health to be somewhat improved.

Table 2

Health Status Results

Farm/Ranch	Mean (sd)	Measurement
Quality of Life	6.86 (2.14)	0-10
Current health status	6.29 (1.79)	Higher Better

Impact of Farm/Ranch Living on the Women's Health

The impact of farm/ranch living on the women's health was reported in three areas. They were: physical health issues, the impact of their chronic illness on daily living, and health status as it related to farm/ranch living.

Physical health issues. Nine common physical health issues (see Table 3) were rated by the participants on a scale of 1 (*no difficulty*) through 5 (*great difficulty*), to determine the degree to which they felt disabled by their chronic condition. Of these physical health issues, *difficulty with fatigue* was rated the highest with a mean score of 2.86 (sd = 1.19), and *difficulty with breathing* the lowest with a mean score of 1.52 (sd = 0.98). Individual item responses were summed to determine a total Physical Health Issue Scale score which had a mean of 20.28 (sd = 7.07). On each individual item, the farm/ranch women's mean score was less than 3, and that of the Physical Health Issue Scale was near the lower end of the possible range. Given these outcomes, the women did not report having any significant difficulty with the selected physical health issues.

Chronic illness impact. Of the nine daily living activities (see Table 4), fulfilling farm/ranch responsibilities (mean score = 2.81, sd = 1.53) and doing recreational activities (mean score = 2.76, sd = 1.67) were most impacted by their illness. They considered attending church and being present at community events to be similar with a mean score of 2.38 (sd = 1.52 and 1.62) for each. Least impacted by their illness with a mean score of 1.71 (sd = 1.76) was being active in an organization such as 4H or other women's leagues.

Table 3

Farm/Ranch Physical Health Characteristics Results

Assessed Characteristic	Mean (sd)	Measurement (higher = worse)
Fatigue	2.86 (1.19)	1-5
Chronic Pain	2.71 (1.45)	
Climbing Stairs	2.57 (1.24)	
Mobility	2.38 (1.11)	
Holding Items	2.33 (1.3)	
Coordination	2.29 (1.00)	
Vision	2.05 (1.02)	
Hearing	1.57 (0.81)	

Breathing	1.52 (0.98)	
Physical Health Scale	20.28 (7.07)	9-45

In addition to looking at each item individually, the cumulative Chronic Illness Impact Scale was used (*see Table 4*). The scale had a mean score of 18.80 (sd = 11.03). Given these results, it can be concluded that the farm/ranch women considered their chronic illness to have a moderate impact on their activities of daily living.

Table 4

Chronic Illness Impact

Measured Daily Living Activity	Farm/Ranch Mean (SD)	Measurement (higher = worse)
Performing farm/ranch responsibilities	2.81 (1.53)	1-5
Recreational activities	2.76 (1.67)	
Household cleaning	2.62 (1.53)	
Participating in activities with friends	2.57 (1.50)	
Having sexual intercourse	2.57 (1.77)	
Going shopping	2.48 (1.47)	
Being present at community events	2.38 (1.62)	
Attending church service or bible study	2.38 (1.52)	
Being active in organizations	1.71 (1.76)	
Chronic Illness Impact Scale	18.80 (11.03)	0-45

Health status related to farm/ranch living. Five of the 21 farm/ranch women replied *yes* in response to the question that asked whether they had any illness or trauma that might have been related to living in the farm/ranch environment. These conditions included stress, depression, contusions, joint stiffness, joint swelling, and back pain. Nine women rated their health as *about the same* and eight rated their health as *worse* or *a lot worse* than non-farm/ranch

women their age when asked to compare their health to women who did not live on farms or ranches.

A variety of responses were gleaned from the assessment of the women’s experiences with the hazards of farm/ranch living and working (see Table 5). Of the 11 women with one or more skin problems, six considered their skin condition to be the result of exposure to sun, chemicals, or other skin irritants, but not necessarily stemming from living and working on a farm/ranch. None of the five of the women who experienced hearing loss associated it with farm or ranch work. The four farm/ranch women participants who reported breathing problems did not attribute their breathing difficulties to farm or ranch exposure.

Table 5

Health Conditions Related to Farming/Ranching

Question	Frequency Results
Farm/ranch related trauma	Yes = 5
Skin problem?	No = 8
Types for those answering <i>yes</i> .	Rash = 4 Sores = 1 Excessive Dryness = 11 Skin Cancer = 1
Skin conditions related to sun, chemicals, or other substances?	Yes = 6
Hearing loss?	Yes = 6
Is your hearing loss related to working on the farm/ranch?	No = 6
Breathing problems?	Yes = 4
Is your breathing problem related to working on the farm/ranch?	No = 4

Todorovich, 2011, p. 28

Discussion

The aims of this study were to learn about the health status and impact of ranch/farm living on the health of a group of farm/ranch women living with chronic illness. An examination of the

participants' responses provided insights into their views of their health and perceptions of how their health and quality of life were impacted by rural living. Observations follow about how their perceptions compared with those of others, as reported in the literature.

Quality of Life

Gill and Feinstein (1994) noted that health related quality of life can only be completely assessed as seen through the eyes of the individuals themselves. Judging what factors influence their views of this multi-dimensional concept of overall enjoyment of life and wellbeing can be an elusive endeavor (Segen, 2002). However, it is reasonable to expect that symptoms, discomfort, and physical limitations associated with having a chronic illness can put a person at risk for an impaired quality of life (McCabe & McKern (2002). Add to this the possible social isolation of rural living, and another factor that can influence quality of life negatively becomes part of the equation. It has been shown that individuals with chronic conditions who have opportunities to interact socially have a better quality of life over time compared to those with limited social support (McCabe, Stokes, & McDonald, 2009; So et al., 2009). Rural women, especially those with significant illnesses, are often unable to access support services and the companionship of distant friends and family, therefore may feel isolated (Bettencourt, Schlegel, Talley, & Molix, 2007) and thus be at risk for a decreased quality of life.

Given these factors, it was surprising to find that the chronically ill, farm/ranch study participants considered their quality of life to be as good to better than most. One feasible explanation for the group's reported perception of a high quality of life was proposed by Bowlerk (2002). The participants in the Bowlerk study reported that rural living encouraged them to get outdoors in the fresh air, and increased their physical activity and enjoyment of the pleasant surroundings. It is also possible that the women's positive perceptions of their quality of

life was related to the support they received through the WTW project—a health education and social support intervention that has been shown to enhance the lives of isolated rural women living with chronic illness (Weinert, Cudney, & Hill, 2008). The women’s reports of a good quality of life were encouraging because an increased quality of life has been linked with enhanced health promotion behaviors such as eating well and being active, and decreased illness symptoms such as fatigue (Strine, Chapman, Balluz, Moriarty, & Mokdad, 2008).

Health Status

It is expected that, as individuals with chronic conditions age, their lives become characterized by increasing dependence and impotence (Ryan & Farralley, 2009). Yet, the women in this study rated their health to be as good as or better today than it was one year ago. Since all were living with a chronic health condition, why they reported such a perception is puzzling, but it may be attributed to healthcare needs that were being met, adequate management of their chronic illnesses, and/or that they were positively responding to a computer-based support and health knowledge intervention that had a part in improving their perception of their health during the past year.

Stress and fatigue can be lessened and emotional and physical functioning improved in individuals with chronic illnesses by their participation in self-care and lifestyle modification programs (Malec, 2002). For example, in the Women to Women program (Weinert et al. 2008), it was shown that this computer-delivered intervention bolstered social support, reduced loneliness, enhanced the ability of rural women to self-manage, and ultimately helped them to adapt more successfully to living with a chronic condition. Improved chronic illness management was also reported by Massey, Appel, Buchanan, and Cherrington (2010) in

individuals who participated in programs that incorporated the use of telemedicine, telephone help lines, web-based interventions, and community health advisors. Time also allows individuals to improve their management of chronic health conditions. Thus, past participation in the WTW study and the passage of time could have aided the women in this study to consider their health to be the same to better than it was one year ago.

Fatigue a Major Health Issue

Fatigue is a common companion to those suffering with chronic conditions. In fact, all the participants reported fatigue as the most significant physical health issue related to rural living and their chronic illness. Given the endless responsibilities that women living and working on a farm/ranch face, it is to be expected that those who also carry the burden of a chronic illness are at an even higher risk from suffering the consequences of fatigue. If a woman is also employed off the ranch, her responsibilities are multiplied. Adding together off-ranch employment, home and parenting responsibilities, and farm/ranch tasks, the women may experience what Gallagher and Delworth (1993) described as the *third shift phenomenon*. Bolton (2000) proposed yet a different type of third shift that she titled the *endless shift*. This shift is characterized by the stress of getting things done, balancing responsibilities, and defining role identity. Fulfilling the demands imposed by these multiple “shifts” can raise concerns in the women about their ability to complete chores and meet financial obligations while concurrently dealing with their own illnesses and limitations in silence for fear of being a burden to the family (Reed et al., 1999).

Impact of Chronic Illness on Farm/Ranch Living

Chronic illness impacts one’s ability to do farm/ranch work when the considerable physical demands outstrip the diminished capacities imposed by the chronic condition. Even the concentration and time involved with paper work could be stressful. Thus, it was not surprising

that the study participants cited farm/ranch responsibilities as the category of tasks most negatively affected by their chronic illnesses.

Conversely, the women in the study considered their chronic illness to have the least negative influence on their participation in community and service organizations—possibly because this type of activity was less physically and mentally demanding than farm/ranch duties. In fact, Bolwerk (2002) found that church activities and volunteering were considered by many farm/ranch women to be part of their leisure time

Farm/Ranch Related Injuries and Health Risks

Injuries and illnesses for women in agricultural occupations have been poorly documented. This may be due to the historical fact that the women's role in farm/ranch work was not widely acknowledged, and because of the diversified positions women have on the farm or ranch (McCoy, Carruth, & Reed, 2001). In this study, five of the farm/ranch women reported back pain and stiff joints, but the cause of these symptoms was unclear. Possible causes could have been overuse, past injury, and/or arthritis, a chronic illness commonly reported among the women.

Stress and depression were linked to farm/ranch work in studies by Amshoff & Reed (2005) and Reinsch & Woodgate (2008). It can be seen that the pressures of overwhelming responsibilities, as described previously in the context of the third shift phenomenon (Bolton, 2000), could be a source of unrelenting stress for farm/ranch women, especially those with chronic conditions, and ultimately lead to situational depressive symptoms. A farm-related injury could also cause or exacerbate such symptoms (Carruth & Logan, 2002).

Other contributing factors that could contribute to the onset of depressive feelings have also been identified. Amshoff & Reed (2005) observed that farm and ranch dwellers frequently associate their worth with the amount of work they can accomplish. Thus, when farm/ranch

women's abilities are diminished so might their sense of well-being. Bowlerk (2002) added that feelings of depression could be engendered by the social isolation imposed by rural living, long hours, and few days off.

According to Gaetano et al. (2009), farm/ranch workers' exposure to outdoor elements puts them at increased risk for skin problems such as sores, rashes, excessive dryness, and cancer. In this study, there were few reports of untoward skin conditions, with the exception of excessive dryness, and only six women attributed the conditions to farm/ranch exposure to sun, chemicals, or other substances. According to Reed (2007), preventable chemical or sun burns among agricultural workers are commonly seen because of stress and time constraints that lead to faulty safety techniques and failure to take precautions.

Although there is documentation related to noise-induced hearing loss in agricultural workers in general (Penn State Extension, 2013; McCullagh & Robertson, 2009), there is none addressing the incidence and prevalence of hearing loss specifically in farm/ranch women. A general approach to hearing loss prevention related to noise in all populations has been included in the objectives of *Healthy People 2020* (US. Department of Health and Human Services, n.d.). Other non-farm/ranch related causes for hearing loss across groups, including farm/ranch women, are advanced age, genetics, infection, taking ototoxic medications, and trauma (National Institute on Deafness and Other Communication Disorders, 2009). Never-the-less, because of the noise factor, those living and working on farms and ranches are at increased risk for hearing loss (Bean, 2008). Although five of the 21 study participants reported hearing loss, none associated the loss with farm/ranch activities. Possibly the women were unaware that exposure to agricultural noise could damage their hearing, and given the over 57 year average age of the group, they may have considered their hearing loss to be age related.

Numerous sources of air contamination, dusts kicked up while tilling the land, pesticides, etc., exist that pose breathing risks to agricultural workers that range from minor allergies to fatal respiratory responses (Grisso, Hetzel, & Stone, 2005). For example, among nonsmoking farm women, pesticides have been associated with chronic bronchitis and atopic asthma (Valcin et al., 2007; Hoppin et al., 2008). Valcin et al. also indicted grain and dust exposures as causes of chronic bronchitis.

However, no one in the study group identified themselves as having a primary chronic health problem related to respiratory difficulties, and just one cited emphysema as her secondary chronic health condition. Milder breathing problems were reported by four women, but none associated her problems with living on a farm/ranch. From these findings, the possibility was considered that the breathing problems reported may have been acute in nature, fairly mild, and may have only occurred intermittently during certain times of the year. Inherent in the women's denial of the potential residential and occupational risks to the respiratory system associated with ranch/farm work and living is the danger that common agricultural occupational related respiratory illnesses such as Farmer's Lung and Organic Dust Toxicity Syndrome may go unrecognized or misdiagnosed until the condition becomes advanced and difficult to treat successfully.

Suggestions for Future Research and Clinical Application

To build on the knowledge gained from this small study of the perceived health status of a group of farm/ranch women, further research might focus on: (a) expanding the study to a larger sample and incorporating a control group with similar demographics; (b) exploring new territory by ascertaining the incidence and prevalence of specific illnesses, chronic conditions, and injuries unique to farm/ranch women; and (c) implementing and monitoring an expanded

telecommunication support network for farm/ranch women throughout the northwest with the goal of enhancing the women's perceived health status and quality of life.

Because of this study's small sample size of 21, a similar, larger scale study incorporating a control group could have a greater potential for producing more informative and sound conclusions. In addition, a design which uses a primary, mixed method approach, rather than being limited to secondary data, could be promising. Adding more open-ended options to the mail questionnaire would elicit a wider range of responses than is possible with just questions with *yes* and *no* answers and multiple choice responses. Since the questions used in the study were research team generated, adding a qualitative component of follow-up interviews with those who took the survey might serve to supplement the questions or clarify responses. Another option would be to design a stand-alone qualitative project, combining interviews and observation as the vehicle for data-gathering.

Implications for Nursing

Healthcare providers in largely rural states, such as Montana, must recognize the nature of rural demographics and their influence on the unique health needs of not just rural women but specifically farm/ranch women. Health screening tools that are specific to farm/ranch issues need to be developed and used with both men and women farmers/ranchers. Rural healthcare providers need to be fully aware of the health risks and challenges associated with living and working on a farm or ranch, especially those faced by farm/ranch women with chronic conditions. They need to fully appreciate the impact on these women of social isolation, limited healthcare access, inflated healthcare costs, persistent fatigue, chronic pain, and feelings of anger and guilt. Equipped with a true understanding of these factors, providers will be better prepared to provide farm/ranch women with optimum health care. They will be positioned to help these

women to better manage their chronic illnesses and address their unique health issues, such as farm/ranch related injuries, skin conditions, hearing impairment, and respiratory disease. It is important for health care providers to consider all aspects of farm/ranch women's lives so that adequate treatment and preventive education may be provided to ensure better chronic illness management and avoidance of other illnesses and injuries to which an agricultural lifestyle places them at risk.

Further, given the limited health care available, it is essential that farmers and ranchers themselves—men, women, and children—be encouraged to become partners in their health care. In such a partnership, farm/ranch dwellers become more responsible for their own care and take an active role in making health care related decisions in concert with their health care providers (Fox & Chesla, 2008). To do so successfully requires information and health education. Therefore, the health care providers' role is to open the door to the partnership and provide information and guide their farmer/rancher clients toward resources for improving their health literacy--the ability to read, understand, and act on health care information (Hill, 2008). Optimal combinations of these elements can enhance health literacy and foster productive interactions between informed farmers/ranchers and their health care providers (Weinert, Cudney, & Kinion, 2010) in the quest to obtain and maintain better health and safety in a farm/ranch environment.

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