

Rural women and pharmacologic therapy: needs and issues in rural Canada

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Introduction: The needs and issues of rural women regarding pharmacologic information and therapy are rarely explored. We sought to explore the needs and issues of rural women in Canada regarding drug-related information and prescription and nonprescription pharmaceuticals.
Methods: We used the qualitative methodology of interpretive description. In-depth semistructured face-to-face interviews were conducted with 20 women aged 17–88 years who lived in rural southwestern Ontario.
Results: Although rural women accessed prescription medications, complementary and alternative medicine (CAM) was highly favoured, and alcohol and illicit drugs such as marijuana, crystal meth and cocaine were prevalent in rural communities. Factors that affected rural women's decisions about which medications to use included access to health care practitioners, costs of medications, experiences of family members and friends with prescribed and alternative medications, attitudes and approaches of health care providers and health store employees, and the women's own expectations and desires. Factors that affected the use of illicit drugs included availability, boredom, peer pressure and cultural norms. Rural factors that influenced access to drug information and use included presence or lack of confidential care, distance to resources, and presence, accessibility and acceptability of rural resources.
Conclusion: Rural women use a variety of drug therapies and sources of information, and experience unique socioeconomic and environmental issues that affect access to appropriate drug-related information and therapies. Further research is needed to clarify and articulate pharmacologic needs, issues and solutions for women in diverse rural settings.

Introduction : On étudie rarement les besoins et les problèmes des femmes rurales en ce qui concerne l'information pharmacologique et la pharmacothérapie. Nous avons voulu explorer les besoins et les problèmes d'information des femmes rurales du Canada sur les médicaments et sur les produits pharmaceutiques d'ordonnance et en vente libre.
Méthodes : Nous avons utilisé la méthodologie qualitative de la description d'interprétation. Nous avons effectué des entrevues personnelles semistructurées approfondies avec 20 femmes âgées de 17 à 88 ans vivant en milieu rural dans le sud-ouest de l'Ontario.
Résultats : Même si les femmes rurales ont accès aux médicaments d'ordonnance, les produits de la médecine complémentaire et parallèle (MCP) sont très populaires, et l'alcool et les drogues illicites comme la marijuana, le crystal meth et la cocaïne sont prévalentes dans les communautés rurales. L'accès aux praticiens des soins de santé, les coûts des médicaments, l'expérience des membres de la famille et des amis face aux médicaments d'ordonnance et autres, les attitudes et les approches des fournisseurs de soins et des employés des magasins de produits de santé, ainsi que les attentes et les désirs des femmes elles-mêmes, sont au nombre des facteurs qui influencent les décisions des femmes rurales en matière de pharmacothérapie. Par ailleurs, les facteurs qui influencent l'utilisation des drogues illicites comprennent la disponibilité, l'accès, l'ennui,

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la pression des pairs et les normes culturelles. Les facteurs ruraux qui influencent l'accès à l'information sur les médicaments et leur utilisation comprennent la présence ou l'absence de soins confidentiels, l'éloignement des ressources, ainsi que la présence de ressources rurales, leur accessibilité et leur acceptabilité.

Conclusion : Les femmes rurales utilisent tout un éventail de pharmacothérapies et de sources d'information, et vivent des problèmes socioéconomiques et environnementaux particuliers qui ont une incidence sur l'accès à l'information au sujet des médicaments et des pharmacothérapies appropriées. Une recherche plus poussée s'impose pour clarifier et définir les besoins pharmacologiques, les problèmes et les solutions des femmes vivant dans divers contextes ruraux.

INTRODUCTION

The study of rural women's health has been much neglected in the United States[1,2] and in Canada, where about 1 in 5 women live in a rural area.[3,4] Rural women in Canada experience particular physical and mental health issues and unique geographical and cultural contexts that contribute to injury from farm machinery and animals,[5] cancers related to toxins[6] and limited access to health promotion, illness prevention, treatment and rehabilitation resources.[3,7] In addition, rural women have particular drug-related needs, depending on their values and health status. Mental health issues such as despair, depression and psychological distress are becoming increasingly common for rural women as they and their families cope with downturns in rural economies and rural depopulation.[7]

Geographical issues that influence rural women's needs and solutions regarding drug information and therapies include distance to health care professionals, weather and road conditions, access to a vehicle, and access to, and facility with, technology such as computers and telephones.[4,9] In addition, rural cultural beliefs and values can affect how health issues are defined, valued and addressed. For example, issues related to mental health may be stigmatized, and even if local remedies are available, rural people may not use them because of real or imagined lack of confidentiality and anonymity.[1]

In 2005, rural areas in Canada were served by only 16% of family physicians and 2% of specialists.[10] Practising rural physicians compared with urban physicians are significantly more likely to be male.[11] In some rural settings the community health nurse may be the only health care professional or the only female health care professional.[12] Rural areas may have difficulties retaining pharmacists and pharmacies, and many small and independent pharmacies are under financial stress.[13]

Little is known about the use of medications by rural women as few studies have focused on this population. In a study of rural gynecologic patients in the United States,[14] 92% of women reported using prescription drugs, 97% took at least 1 over-the-counter drug, 59% used at least 1 herbal product and nearly 25% of participants took psychotherapeutic agents (81% of these were antidepressants). Prescription drug use in this population increased with age (all women 55 years of age or older used prescription drugs). In a survey of an elderly rural population in Pennsylvania where 71% reported taking at least 1 prescription medication, women took significantly more medications than men.[15]

Rural physicians may differ in their drug prescribing practices from their urban counterparts. In a study in Quebec,[16] lower rates of new drug use were shown among physicians in rural areas. The authors postulated this may have been related to characteristics of physicians who practise in rural communities, the relative isolation of rural physicians from colleagues and differential intensity of visits by pharmaceutical industry representatives related to geographic inaccessibility. A study in Queensland, Australia,[17] confirmed that rural general practitioners there were more likely than urban physicians to agree that their practice location had an effect on their prescribing, including the prescribing of new drugs.

There is a paucity of work that explores rural women's use of complementary and alternative medicine (CAM). In a study in rural Alberta,[18] sex was the only variable significantly related to having seen an alternative practitioner, with women more likely than men to have done so. The Australian Longitudinal Study on Women's Health[19] found that CAM users were more likely to reside in non-urban areas. In a study of older rural women's use of complementary therapy in rural Montana and North Dakota,[20] 26% of the women reported using CAM recently and they were most likely to use CAM if they were well educated, not currently married, in early older

years, had significant chronic illness and experienced lower health-related quality of life due to emotional concerns.

To advance understanding about rural women and pharmaceuticals, we studied the issues and needs of rural women in southwestern Ontario regarding drug-related information and therapies. Drugs were defined as including prescribed medications available from a physician, nurse practitioner or pharmacist; over-the-counter drugs such as acetylsalicylic acid; alternative medications such as herbs available without a prescription; illicit drugs such as marijuana and cocaine; and elements that may not be viewed as drugs, such as alcohol, but which nonetheless contain medicative properties. Rural was defined as living "outside of commuting zones of urban centres with 10 000 or more population."[21]

METHODS

The qualitative method interpretive description[22] guided our study. The objective of interpretive description is to achieve insights that may inform clinical reasoning and practice, acknowledging the constructed and contextual nature of human experience. Qualitative methods are particularly useful in exploring a topic about which little is known.[23] In addition, as rural women were interviewed using face-to-face semistructured interviews, qualitative research facilitated access to information from rural women's perspectives and afforded them the opportunity to have a voice in research. As rural women are often not included and feel that they do not have a voice in research,[3] it was deemed important that a qualitative method be used.

Study context

The province of Ontario has the highest number of rural women in Canada.[24] Southwestern Ontario consists of varied rural contexts and diverse health and socioeconomic needs and resources, and includes agricultural, recreational and retirement communities,[24] and Aboriginal, Mennonite and other cultural groups.

Recruitment

After ethical approval was received from the University of Western Ontario Research Ethics Board, rural women were recruited in southwestern Ontario at a rural auction, rural craft fair, Catholic Women's League meeting, by rural public health nurses and by word of mouth. Study inclusion criteria were that women lived in a rural area, could read and speak English, and were able and willing to speak about needs, issues and solutions regarding drug information and therapies.

Data collection

In order to obtain maximal variation of data and a complex interpretation of themes, sampling continued until data saturation, or replication of data in themes, occurred.[22] Participants lived on farms and in or near small towns that varied in population from 50 to 6000 residents. Each woman was interviewed in her home from May to November 2006 using a semistructured open-ended interview format. In the interviews, women were asked about their experiences or knowledge about rural women's issues or solutions regarding use of prescription and nonprescription pharmaceuticals. Probing with additional questions helped to obtain data relevant to each participant's situation, to access sensitive data such as use of illicit drugs and to access perspectives regarding themes emerging from interviews with other participants. Interviews lasted 45 minutes to 2 hours and were audiotape recorded.

Data analysis

Each interview was transcribed word-for-word and then imported into the qualitative data management computer program NVIVO 7 (QSR International) for analysis. Each transcript underwent line-by-line coding by a minimum of 2 researchers to determine themes regarding rural women's needs, issues and solutions about drug-related information and therapies. Throughout the analysis, the researchers attempted to understand the overall picture revealed by the findings by asking themselves, "What is happening here?" and "What are we learning about this?"[22] Rigour was attended to by conducting interviews as other interview data were analyzed, and by primary analysis by 2 researchers with conceptualizations brought back to the research team for consideration. These strategies assisted with the development and refinement of conceptualizations that accurately reflected data presented by study participants.

RESULTS

Forty-four women in southwestern Ontario responded to recruitment efforts. Sampling saturation resulted in a sample size of 20 rural women of

diverse backgrounds. Study participants varied in age from 17 to 88 years of age; 1 was of Mennonite background, 1 was an Aboriginal woman who lived on a reserve, and the remainder were white or did not explicitly claim a cultural background.

Our main findings revealed themes related to prescription drugs, CAM, and alcohol and illicit drugs.

Prescription drugs

Various prescription drugs were used by study participants, most frequently antihypertensives, antidepressants, analgesics and birth control pills. Women in the study appreciated having access to physicians who respected and included them in decisions about their medications and care. The women also noted that it was difficult to find a physician because of the shortage of physicians. As one woman commented, "Shortage of doctors ... I used to have a doctor that I was very, very pleased with, I liked very, very much, [but] he went into anesthesiology." Another woman noted, "This doctor took us right away. He was my parents' doctor ... so before our other doctor left we were able to get him." However, women's access to drug-related information and therapies was compromised by the limited time and attention accorded them by some physicians. Participants spoke about being permitted as little as 5 minutes in a visit with their physician, and stated that physicians often restricted them to 2 or 3 questions and then required that they make another appointment for additional questions. A participant stated,

> [Visits to my physician are] very rushed, and I have to make a list and when I don't get to certain things on the list, he stands up and says, "We only get a certain amount of time per patient, I have to go." I don't feel that he is a good doctor. ... I don't trust him and I completely feel like a number.

Another participant noted,

> This is very hard and I feel frustrated and guilty because lots of times I have my list of questions and she's [physician] [leaving] and walking down the hall. ... I feel guilty taking up her time ... maybe my concerns aren't all that important.

Restricted time and attention hindered women's ability to access information related to their health, undermined confidence in care and prompted some to consider changing physicians ("I wish I could switch doctors but I don't have that choice") or to seek more accessible complementary and alternative practitioners and medications. Although urban women may experience similar challenges, in rural areas women may have much more limited or no other health care options to which they can turn. As a rural participant noted, "There's no choice [here]."

Participants were very interested in learning all they could about prescribed drugs. They conducted searches on the Internet if they had access to computers ("We don't have Internet ... but I use it at the library"), asked questions of health care providers and read information that they could locate. They particularly appreciated information received in pamphlets from the pharmacist, as one participant explained, "Because if you couldn't remember what the pharmacist said, you could at least go back for reference ... even a month or 2 [later]."

However, participants also identified how the provision of drug-related information was not helpful. The lack of a private place in the pharmacy where the pharmacist could confidentially advise and counsel women discouraged women from asking questions. Judgmental or condescending counselling by pharmacists humiliated women and discouraged questions, especially when not in a private location. Comments by this participant are particularly revealing:

> The pharmacist gave me a big lecture about being [overweight] ... you should do this and this, you shouldn't be on high blood pressure pills [or] on Tylenol 3. ... I felt *very* awful. So now the guy behind me knows exactly what kind of medication I take and that doesn't make me feel very good. ... Privacy is very important. ... I still wouldn't have appreciated [the pharmacist's] attitude but it would have made a difference [if his advice had been given privately].

Although privacy issues can also affect urban women, in rural areas people who overhear remarks may know the woman, so anonymity and confidentiality are particularly compromised.

Either knowing or not knowing the pharmacist could help or hinder women's access to information and medications. If the woman knew and felt comfortable with the pharmacist, she was more likely to consult him or her. However, familiarity could also discourage drug access and information, as this participant explained:

> I had to go to the pharmacy where my ex-boyfriend's father works to get the morning after pill ... living in a small town ... it's the confidentiality and people aren't supposed to say anything, but the reality is that people do say things. ... I've heard things that I shouldn't know ... people talk and there's always that worry and that judgment.

Not knowing the pharmacist could help women feel more comfortable in accessing medications that were sensitive, such as birth control medications. On the other hand, not knowing the pharmacist

could also discourage access, as women could not be certain that the pharmacist would not judge them or be receptive to their inquiries, as this participant explained:

> The way [the pharmacist] responds to you, it makes you feel like you're stupid 'cause you can't understand what he's saying and you keep asking 'cause you don't understand and you need to know because it's [medication] that you're taking and ... it's for you.

Some participants enjoyed helpful and trusting relationships with rural pharmacists as these comments reveal, "[Pharmacists] have the computer history [so] I've known the pharmacist to question something," and "[The pharmacist] was very good ... she called back and gave me the information over the phone."

Other factors that affected rural women's access to prescription drugs in pharmacies included the location and hours of operation of pharmacies as some rural pharmacies close on Sundays, weekends and evenings. Some participants travelled up to an hour to reach a pharmacy that was open during these times. Women coped with these pharmacy limitations by being organized so that they would not run out of medication, stocking up on medication and picking up medications for themselves and others when in town. For women in low-income situations and those without driver's licences or vehicles, access to drugs often required dependence on others. This dependence compromised women's privacy and sense of independence, and made access to medications problematic, especially for those medications of a sensitive nature. A young woman in the study explained why she needed to drive over half an hour to a neighbouring community to access confidential pharmacy services:

> I will NOT go to my local pharmacy ... to access the morning after pill, birth control pills, condoms, pregnancy tests. ... I would go to a pharmacy further away ... where you don't know the cashier and people in line [behind you]. ... They [cashiers] are not subject to any ethical code of conduct.

Some groups of rural women may experience unique issues. A low-income participant noted that she took only half the recommended dose to extend her treatment and delay the purchase of medications. An Aboriginal woman stated that it was rare for Aboriginal people on her reserve to be denied medications such as analgesics by physicians:

> If an Aboriginal person goes to [physicians] in their own community and says "I'm in pain. I need Oxycontin or Percocet," they're prescribed it quite readily, without a lot of questions. ... It's like they have a sense of entitlement ... [and] there's a lot of intimidation that goes on [like] "You have a job here because of me" ... [and] repercussions might be "You might have to deal with my family if you don't give me [what I want]." ... Maybe non-Aboriginal people who work here come to accept the idea that ... "There's not a lot that we can do."

A consequence of easy access to prescription drugs on reserves is that these drugs can become sources of income, as people sold prescription drugs for profit and then returned to the physician for more drugs. The Aboriginal woman in the study was coping with this drug trade and addiction environment by moving off the reserve, placing her more distant from her support systems.

Complementary and alternative medicine

CAM emerged as a significant theme in the study; 18 of the 20 participants used medications such as echinacea, cod liver oil, milk thistle, garlic, vitamins and primrose oil. CAM was used to boost immunity, enhance nutrition and treat effects of menopause. Knowledge about and use of CAM medications were influenced primarily by family, friends and health food store employees, as this participant noted: "[I talked with] my sister-in-law [who] is involved in a company with various herbs, also a friend of mine introduced me to Enrich." Participants purchased medications at health food and grocery stores, and at CAM house parties given by friends and family members. CAM medications allowed participants more input and control over drug decisions, and helped them avoid distance, weather and limited access to and censure by physicians and pharmacists in rural locations.

Participants were asked about how they determined the validity of their sources of information regarding CAM. For Web sources, women felt that Health Canada and other government sources instilled the most trust. Participants also felt that information was reliable and valid if more than 1 website repeated the same thing. Determination of the validity of CAM information and recommendations provided by friends, family and health food store owners was more nebulous. Friendliness, sociability, trust, length of time the person was known and the confidence of health food store employees in CAM products were attributes that women assessed when evaluating CAM products. Participants explained, "There's different people that have said that it was good. ... A chap in [X] seemed to think that milk thistle saved him because we all thought that he was

going to die," and "I started reading [about herbal supplements] when I was a teenager and I educated myself by buying books ... now the Internet has everything on it."

Participants used CAM medications for various purposes, including replacement of medications such as hormone replacement therapy. A participant explained, "I was put on HRT. ... When the research came out, [my physician] said, 'I want you off that.' ... So I've been taking a herbal remedy for [menopause side effects]." CAM medications were also used to promote health ("I started taking milk thistle. I've been told it's supposed to be good for care of your liver and stuff. And I thought after the chemo ... I would try that and see if it makes things work," and "I've used LifeFiber for probably 12–15 years. And I would say that I'm now free of irritable bowel") and, because they were considered natural, it was felt by some participants that "They can't hurt." CAM medications, such as echinacea, were used to avoid or delay the need for prescribed medications (e.g., for flu). In addition, using CAM medications helped women "buy time" that could help them postpone or avoid travel and long waiting times for prescription medications in physician offices or emergency departments ("I'd rather go to the barn and shovel cow poop than go to emergency"). CAM medications were also used because they were deemed valid in their own right, as this participant explained: "I find that if you take vitamins and stuff from the health food store for certain things, it goes to the cause, whereas if you go to a medical doctor, they treat symptoms, and it does not take the cause away."

Some participants realized that it was important to inform their physician and pharmacist that they were taking CAM medications and that CAM and prescription medications could interact in unhealthy ways. However, most participants chose to not inform physicians about their CAM medications. Participants commented,

> [My physician] would respond negatively to [CAM]. ... I actually told [my physician] that [my sister-in-law] takes shark cartilage and it helps to slow and almost stop [the progression of her arthritis]. ... His comment was "Well it didn't help the shark any." ... Probably 'cause he is from an older school he doesn't know anything about it.

and "Some doctors are open enough to hear of the more natural remedies. And others, they've gone to ... doctors' school and learned about drugs because, yeah, that's where the money is!" and "I always have a feeling that my doctor's not really open to herbal medications. ... So I don't really talk to him about that."

Alcohol and illicit drugs

Alcohol use, common in several communities in the study, was used to combat isolation and boredom; it was seen as a cultural norm and for some people — but not all — was acceptable. A participant vividly described this situation:

> I'm disgusted to the max with ... the amount of drinking I've seen ... [The attitude seems to be] "If you can't beat 'em, join 'em." But gosh, on a Sunday, you just go up the street and there's men holding up the side of their garages. Two hours later they're still there. And you think, "GET A LIFE! Do something!"

Although alcohol use was prevalent, one participant observed, "We're seeing a new trend now, where people are less likely to drink alcohol and more likely to do drugs." Drugs that participants noted were used in rural communities included marijuana, crystal meth, cocaine and mushrooms. Participants volunteered that people in their small communities, by virtue of knowing each other, were often aware of who was taking drugs, especially on reserves, as the Aboriginal participant noted, "You can see people any time of the day just going to his [drug provider's] house." Participants attributed reasons for taking alcohol and other drugs to a family history of illicit drug-taking ("The ones who get into drugs tend to be from the poorest families ... with lack of home life, they turn to friends to try to find whatever support they can ... if their parents did drugs, then the kids think that was right"); the accessibility of drugs ("There's a barn right across the street at the end of this field ... it's well known ... drug dealers go there all the time"); peer pressure ("I've been offered [marijuana] so many times ... I've always said no"; "I didn't want to be around drugs [so I changed friends]"); boredom and limited options ("[People here do drugs because of] boredom ... there's not much to do [here]"); and the need for "a source of income."

On-reserve, cultural norms and easy access to prescribed medications such as oxycodone often resulted in abuse and addictions. The effects of drug addiction on life choices and family and community life were eloquently described:

> School ... a job ... no longer becomes a priority. Stealing from parents, neighbours, becomes an issue. ... [The mother of a son with a drug addiction] worries about him all the time. ... He's an embarrassment to his father. ... He's quite violent when he's coming down. ... We know when they're buying, you can see when they're dying.

To address prescription drug addiction, this participant advised that, "If you're not dealing with the people who are selling, there's always going to be a problem." Thus physicians and pharmacists, as well as community members who provide drugs, must also be included as part of the solution to rural community drug abuse and addiction.

Drug treatment and rehabilitation resources may also be helpful; however, these resources are often not appropriately available in rural settings. As one participant noted, "One drug and alcohol counsellor ... is limited in what he can do because the problem is so *big*." Thus rural residents often need to travel to urban centres for this treatment. Distance, lack of knowledge about the location and diverse purposes of rehabilitation resources in urban settings, and costs for rehabilitation compromise the ability of rural residents to access these resources. A participant observed,

> Unless you're paying a lot of money to get somebody into a good treatment centre ... you're just going to send somebody where they can stay to dry out but they have to do it on their own [without counselling].

Due to the nature of rural employment, rural residents rarely have sufficient or any insurance coverage for drug rehabilitation. Thus rehabilitation resources are virtually inaccessible to many rural residents.

Finally, even if resources are available, they may not be used appropriately. For example, although methadone can be used to treat drug addiction, it can also be used to supplement and enhance, rather than substitute for, illicit drug-taking. On reserves and in rural communities,

> people in positions of power ... police ... don't want to do anything about it because it's their family members who are selling ... using. ... It's the whole interconnected social network thing ... everybody's related.

Without resources to educate, monitor and rehabilitate, rural residents are mostly left on their own to cope with alcohol and illicit drug use and its consequences.

DISCUSSION

The main results of our study revealed themes regarding access to information and therapies related to prescription drugs, CAM, and alcohol and illicit drugs. Women were more inclined to ask for information if they perceived that the care provider — physician, pharmacist, nurse — would be receptive to and respectful of their inquiries. Denigration of women's questions, criticism of drugs that women were interested in and lack of time with care providers for questions or for meaningful confidential interaction served to silence women. As a result, participants sometimes sought information and therapies elsewhere. Limited access to respectful professional advice, ready and friendly access to information and advice from nonprofessional sources, and challenges associated with assessing the validity of nonprofessional sources of information and therapies suggest that rural women may be at risk of taking inappropriate, ineffective or unsafe medications. In addition, rural women may elect to forgo drug therapy altogether, choosing instead to endure rather than treat drug-responsive conditions.

Study participants valued both verbal and written drug information, especially if provided in understandable forms. A qualitative study conducted with urban participants in the United States[25] found that low literacy, defined as reading at or below the sixth-grade level, resulted in misunderstanding prescription drug labels and taking a greater number of prescription drugs. The elderly were noted as being particularly vulnerable.[25] In Canada, rural and remote locations are characterized by higher morbidity and mortality[9] and a higher proportion of seniors compared with urban settings.[26] Thus the need for literacy-appropriate medication information is particularly important for rural residents.

Our study confirms the findings of others[14,27,28] in that CAM therapies are often integrated with conventional prescription drug therapy by rural residents. Lack of access to physicians, nurse practitioner, and pharmacies may account for some CAM use. Low incomes and lack of access to health insurance plans[26] may preclude rural residents' ability to purchase expensive drugs, thereby encouraging the use of CAM therapies. In addition, it may be that the social support of familiar health food store employees, family and friends may be important encouragements for the use of CAM medications.

Our study confirms and extends the findings of other studies[4,14] regarding the fact that women may not receive good advice from health care professionals, particularly physicians, regarding CAM therapies. Our study revealed that women's reluctance to ask health care professionals about CAM drugs could contribute to their receiving limited or inappropriate advice. Thus the onus may need to be more on health care professionals than on rural women to facilitate a dialogue about CAM therapies.

Both an American[14] and a Canadian study[28] found that rural residents favour CAM medications and are likely to continue to do so. As CAM medications have legitimate and safe uses,[29,30] more research is clearly needed to investigate rural preferences for CAM medications and physician perspectives regarding their use. In addition, as rural women are often primary care providers and access medication for other family members[4] as well as themselves, additional research is needed to enhance rural women's decision-making and access to CAM and other drug-related information and therapies.

Rural women experience higher fertility rates compared with urban women.[7] Our study revealed that access to information and medications related to reproductive decisions is often influenced in rural areas by cultural and religious values. Rural values that lead to the restriction or refusal of health resources such as public health nurses in rural schools, misunderstanding of teen behaviours related to sexuality and lack of confidential access to contraceptive resources hinder women's ability to make appropriate reproductive decisions.

Women in this study commented on the strengths and weaknesses of rural pharmacies. Although rural pharmacies have not been studied in Canada, Leipert and colleagues[31] and Xu and Borders[13] have noted that rural areas often have difficulties retaining pharmacies and pharmacists, and that small independent pharmacies are under financial stress. In the province of Ontario, where this study was conducted, the government is proposing a law that would prohibit pharmacies from receiving rebate payments from generic drug companies in return for stocking their medications.[32] This law may affect the ability of small businesses, of which pharmacies would be one, to keep expensive drugs, and independent rural pharmacies would be the most vulnerable. If this law is passed, rural residents in Ontario may experience even more compromised access to medications.

Our study revealed that alcohol and illicit drugs were prevalent in rural communities. Rural communities in the United States are seeing an alarming increase in the use of crystal meth[33] and abuse of prescription drugs[34] and alcohol.[38] The rates of crystal meth drug use in rural America now rival urban rates.[36] Availability of the drug, ease of production due to the availability of constituent components in agricultural products, low cost and the highly addictive nature of crystal meth account for its growing popularity in rural areas.[37] Clearly, further research is needed in rural Canada to explore the nature, prevalence and health effects of alcohol and illicit drug use. Programs and policies could be developed to address alcohol and other substance abuse in rural communities.[33,35,38]

Our study revealed that factors in the rural environment both helped and hindered rural women's access to and ability to make decisions about drug-related information and therapies. Although familiarity and small populations could hinder access to prescription medications, these factors also facilitated trust among rural residents and health care providers, which, in turn, fostered the establishment of helpful services, such as delivery of medications to farms by pharmacies and neighbours. However, the lack of anonymity that is characteristic of small communities where everyone knows everyone else could also inhibit access to drugs because of community norms and religious beliefs. For example, young women were particularly sensitive to the need for anonymous access to birth control medications. However, lack of anonymity was often welcomed by others such as older participants, as their usually greater need for care meant that being visible and known would increase the likelihood that resources, such as travel to a physician or the delivery of needed medications, would be offered to them. Limited or no access to physicians and pharmacies, while compromising women's access to prescription medications, also motivated women to learn about CAM resources that they could purchase (e.g., herbal preparations), access (e.g., through nurse practitioners, naturopathic physicians), prepare (e.g., salves and teas) or develop (e.g., growing herbs). Thus participants in this study revealed that rural locations hold promise and possibility as well as compromise and limitation when it comes to drug-related information and therapies.

Limitations

This research revealed a first glimpse into issues and needs of rural women regarding pharmacotherapy. To facilitate broader understanding, additional research is needed with a larger sample of rural women who represent pharmacologic experiences in diverse rural settings. In addition, in order to best provide pharmacotherapy to those who need it most, additional research should explore the needs of rural women with acute and chronic illnesses, addictions and other health conditions, as well as the health promotion needs of rural women of all ages. Further exploration of rural women's use of CAM medications and of the attitudes and practices of health care providers regarding CAM would also be valuable.

CONCLUSION

This study, one of the first to explore needs and issues regarding pharmaceuticals in rural Canada, reveals that both strengths and problems exist for rural women, and that more research is not only warranted, but critical. Additional research will identify and elaborate on key pharmaceutical issues as well as effective solutions to advance the health of rural women.

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