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Oral health and access to dental care: a qualitative exploration in rural Quebec

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Introduction: We sought to explore how rural residents perceive their oral health and their access to dental care.
Methods: We conducted a qualitative research study in rural Quebec. We used purposeful sampling to recruit study participants. A trained interviewer conducted audio-recorded, semistructured interviews until saturation was reached. We conducted thematic analysis to identify themes. This included interview debriefing, transcript coding, data display and interpretation.
Results: Saturation was reached after 15 interviews. Five main themes emerged from the interviews: rural idyll, perceived oral health, access to oral health care, cues to action and access to dental information. Most participants noted that they were satisfied with the rural lifestyle, and that rurality per se was not a threat to their oral health. However, they criticized the limited access to dental care in rural communities and voiced concerns about the impact on their oral health. Participants noted that motivation to seek dental care came mainly from family and friends rather than from dental care professionals. They highlighted the need for better education about oral health in rural communities.
Conclusion: Residents' satisfaction with the rural lifestyle may be affected by unsatisfactory oral health care. Health care providers in rural communities should be engaged in tailoring strategies to improve access to oral health care.

Introduction : Nous avons voulu vérifier comment les résidents des milieux ruraux perçoivent leur santé buccale et leur accès aux soins dentaires.
Méthodes : Nous avons effectué une étude de recherche qualitative dans le Québec rural. Nous avons utilisé un échantillonnage déterministe pour recruter les participants à l'étude. Des enregistrements sonores d'entrevues semi-structurées, effectuées par une personne dûment formée, ont été colligés jusqu'à atteinte de la saturation. Nous avons procédé à une analyse thématique pour dégager les enjeux. Cela a inclus un compte-rendu des entrevues, l'encodage des transcriptions, la présentation des données et leur interprétation.
Résultats : La saturation a été atteinte après 15 entrevues. Cinq grands thèmes ont émergé des entrevues : idylle rurale, perception de la santé buccale, accès aux soins dentaires, déclencheurs de l'action et accès aux renseignements dentaires. La plupart des participants se sont dits satisfaits du mode de vie rural et à leur avis, la ruralité en soi ne menaçait pas leur santé buccale. Toutefois, ils se sont plaints d'un accès limité aux soins dentaires dans les communautés rurales et se sont dits inquiets de l'impact sur leur santé buccale. Les participants ont noté que la motivation à chercher des soins dentaires venait principalement de la famille et des amis plutôt que des professionnels des soins dentaires. Ils ont rappelé la nécessité d'une meilleure sensibilisation à la santé buccale dans les communautés rurales.
Conclusion : La satisfaction des résidents à l'endroit d'un mode de vie rural peut être affectée par des soins de santé buccale insatisfaisants. Les professionnels de la santé des communautés rurales devraient participer à des stratégies adaptées pour améliorer l'accès aux soins dentaires.

INTRODUCTION

It is widely recognized that the rural environment is a potentially challenging social, cultural and geographical context for health outcomes,[1–5] including those related to oral health. Problems with oral health have been cited as sentinel events, which may be prevented by a supporting environment, adequate access to primary care resources, adequate financial resources, lifestyle and health behaviours, and oral health knowledge.[6–17] Studies have shown that environmental and cultural factors affect health behaviours, and rural culture is considered a health determinant.[18–20] Characteristics of rural residents, such as close and stable social networks, interpersonal relationships, resilience and sufficiency, may promote healthy behaviours and empower well-being. In contrast, contextual factors, such as deficient infrastructures, underprovided public services and unequal distribution of health services may negatively influence health perception, health behaviours and access to care in rural areas.[11–15,21–34]

Rural disparities in oral health and underuse of dental care have been reported in both developing and industrialized countries.[5,7,10,12,14,18,35–46] In 2009, in Canada, the dentist–population ratio was 3.5 times lower in rural than in urban areas.[47] According to the 2001 Canadian Community Health Survey, significantly more urban than rural residents used dental insurance coverage and emergency dental services.[48] Rural residents were also less motivated to use the services of dentists and orthodontists.[48] Moreover, the use of dental services declined substantially from zones with strong metropolitan influence to zones with weak or no metropolitan influence.[49] Two publications of the same study highlighted poor quality of life related to oral health and a high level of need for dental treatment among the Canadian rural population.[50,51]

However, there is still minimal research on the oral health of rural populations in Canada. To our knowledge, no studies have examined how rurality can influence people's perception of oral health and their experiences with access to dental care. The purpose of this exploratory qualitative study was to examine the experiences and perceptions of rural residents in regard to oral health and access to oral health care.

METHODS

We chose a qualitative methodology and phenomenological approach for this study. This powerful research method produces rich data and a holistic view of the phenomena that quantitative methods cannot explore in as much depth.[52–54] The phenomenological approach is presented as a narration of the essence of the experience, allowing for the uncovering of people's perceptions and lived experiences commonly shared by, or predominant in, communities, cultural settings or subpopulations.[53,54]

Study setting, participants and sampling

We conducted this study in a rural region of western Quebec. This region includes 18 municipalities, 65% of which have fewer than 1000 inhabitants. This region's demographic features (i.e., 28% of the population aged ≥ 65 yr, 57% anglophone, 41% francophone, mixed ethnicity), and socioeconomic and environmental diversity made it suitable for this study.

We adopted a maximum variation sampling technique to recruit participants from zones with moderate metropolitan influence (according to the Census Metropolitan Area and Census Agglomeration Influenced Zones classification system) in Quebec, as defined by Statistics Canada.[55,56] Our goal was to identify "information-rich" data from individuals living in different rural communities (with respect to geographic location and distance from urban areas); we were also looking for people with various social, economic and demographic profiles. Our main inclusion criteria were residence in a rural area and age 18 years or older.

The community schools' dental hygienist agreed to collaborate in this study as a research assistant. We recruited participants through flyers placed within communities, word of mouth and personal contacts of the research assistant. We also promoted the study by contacting physicians in the main community hospital, and directors and staff members in the primary care clinics, long-term care facility and retirement housings.

The interviews lasted 60–90 minutes and were audio-recorded. They took place in various settings (e.g., personal residences or public places) according to the preference of participants. The researcher used an interview guide that was inspired by the Health Belief Model[57,58] and the McGill Illness Narrative Interview.[59] The Health Belief Model is the conceptual framework that has been used extensively to understand health behaviours. The McGill Illness Narrative Interview is a theoretically driven, semi-structured interview protocol designed to explore meaning and experience of any health problem or behaviour in a sociocultural context.

Each interview began with general questions about rural life, followed by more specific questions relating to beliefs, knowledge and perceptions about oral health and oral diseases; experiences and concerns

regarding the barriers and facilitators surrounding oral health in rural area; and cues to decision-making. The interview guide also incorporated questions about educational and occupational history, family status, use of medical care and insurance coverage.

The researcher continued conducting interviews until saturation. Saturation means that the last interviews did not bring any new information and just reiterated what was mentioned in previous discussions.[52]

Data analysis

The thematic analysis proceeded in 2 phases. In the first phase, interviews were transcribed verbatim and edited for accuracy. Then, the transcripts were examined for thematic coding; the transcripts were carefully reviewed several times and were broken into different segments until surface themes emerged. Case summaries were then developed for each participant. This involved summarizing the findings under thematic heading and providing summary tables for description of key points. Interview quotations supporting the interpretation of textual data were selected and added to case summaries. Similarities and differences across cases were identified and interpreted. In the second phase, complete transcripts, case summaries and surface themes were reviewed, interpreted and refined by a second researcher. The surface themes and interpretations were then reviewed and major themes were identified.[60]

The institutional review boards of the Université de Montréal and McGill University gave ethical approval. Each participant gave informed written consent before enrolment in the study.

RESULTS

Participant characteristics

Table 1 presents the sociodemographic characteristics of the participants. In total, 15 interviews with 13 women and 2 men were conducted, after which saturation was reached. Seven were interviewed at their home, 1 at church housing, 1 at the participant's workplace, 2 at the dining room of a seniors' residence, 3 at local health service centres and 1 at a hospital long-term care unit.

Themes

Five main themes emerged from the interviews: rural idyll, perceived oral health, access to oral health care, cues to action and access to dental information.

Rural idyll

We use the term "rural idyll" to describe the positive image surrounding many aspects of rural lifestyle. In this study, participants mostly had a positive image about residence in a rural location in terms of health-enhancing properties, social support and positive impact on oral health. Participants did not see rurality overall as a threat to their oral health: "I am planting a garden, having healthy fruits and vegetables ... you are doing more healthy things and having to eat more healthy foods; healthy food is good for your teeth."

Participants mentioned several benefits of living in rural areas. They highlighted the effect of supportive social relationships (e.g., solidarity, community caring, strong family ties) on access to health care. There was an inherent trust in general health care services in this county: "I think because it is a smaller community and people are closer together, they have more understanding and are more caring."

Perceived oral health

When asked about the meaning of oral health, participants had mostly a biomedical perspective. They insisted on the importance of oral health to general health, and they were aware of the risk of having poor oral health on their overall well-being. "If your teeth are not good and they are causing you problems, it is going to go through your system, your blood system, infection." "Oral health, it means a doctor here, a hospital."

Table 1. Sociodemographic characteristics of participants (*n* = 15)

Characteristic	No. participants
Sex	
Male	2
Female	13
Age, yr	
25–45	4
46–65	7
66–85	3
86–95	1
Household living status	
Alone	3
With family/others	12
Education	
Elementary and high school	9
College/university	6
Income, $	
< 40 000 (social welfare)	9 (4)
≥ 40 000	6

Some of them also mentioned that poor oral health was an indicator of family care: "If you look at the smile of a schoolchild and his/her teeth are not beautiful, it raises questions about what is happening at that child's home."

Access to oral health care

The characteristic of rurality that participants criticized most in terms of oral health was lack of access to oral health services, as defined by Penchansky and Thomas.[61]

In regard to accessibility, transportation issues were perceived as primary barriers to access to oral health care. Transportation was more commonly a problem for those without a car who needed support to consult a dental professional: "There [are] lots of people that are living up [in] the countryside; they would have difficulties for transportation." "I don't have a vehicle; I don't have my licence at the moment. We do rely on family members to help us get around." "I prefer that dentists be closer, since it can take time and my children need [babysitting]."

This issue was particularly acute for elderly people, especially those with physical disabilities, who emphasized the lack of appropriate transportation and accommodation facilities. For instance, a woman with a disability explained the kinds of challenges that she faced: "I try to get the bus to come up here, I had fought so hard. The seniors need to get out themselves, since the children are away." "They only had a little ramp, no handicapped stickers (parking). I feel like I had to fight. ... there was nothing for handicapped. They build handicapped bathrooms, you have to turn like this [participant showed a position], they're not building them properly."

In terms of availability, participants indicated they had fewer resources than people living in cities. They felt somewhat isolated and deplored the scarcity of dental professionals in their area. "The fact that we are isolated and that there is nobody telling us to look at your teeth, my family doctor looked at my teeth." "We are 20 minutes away from a dentist that I am not pleased with and we have to drive to X. There is nothing here for oral health. "

Furthermore, most participants had experienced long waiting times for necessary dental visits. Some of them were even anxious about the impact of "waiting for treatment" on their oral health. "They told me that your name will be in our waiting list. I had to wait 6 months for a tooth decay ... I saw the spot getting bigger every month." "I was angry, anxious. I was frustrated by the waiting list. I think we had to wait for a year and a half or 2 years."

Some rural residents also raised the question of acceptability. Some of them experienced dentists' unwillingness to accept them because they were new patients or because they were receiving welfare. "The new patients are not taken here, that's why you have to go out in town." "It can be more accommodating if they take new patients." "Dr. Y does not accept the patients on welfare but I wanted to go to his office anyway."

As a consequence, some participants mentioned their limitations in their choice of dentists. They also mentioned the lack of specialists and thus the need to travel to urban areas to be satisfied with quality of care or treatment cost. "Here, you have only one choice. And, if you were not happy with your dentist, then you have to go to X." "I think it would be a great help to have a specialist, even a general dentist, close by in the community."

> Then I went to a dentist in X; Y pulled rest of my top teeth, made me a full plate; I was in pain for 2.5 years. Y did the same thing with the bottom and left 6 teeth. I went several times and I said they were not working. Y said that I need implants and then it will cost you $___. I went to a doctor in Montréal, which he did the surgery and it cost me half of what they told me.

The issues of availability, acceptability and accommodation were particularly important for parents of young children, uncooperative children or children with developmental disabilities, such as autism. They reported a myriad of problems, mentioning that there was a lack of pediatric dentists in rural areas, and that general dentists were unwilling to treat these young children. Furthermore, lack of access to nearby general anesthesia for dental treatment was highlighted: "There was a long waiting list and many children on the list and the machine (anesthetic) was out of order."

> ... because they don't have the equipment for autistic people. I ended up going to X, somewhere near Montréal. I cannot remember the name of the place. There, they were excellent. To me it is inconvenient to go to X, but to be capable to go to a dentist who is capable to work with a child with autism and who was scared of a dentist chair.

"Worth every penny it cost for transport and the night we had to spend there. Rural areas are not equipped for children or anyone that has a disability or is scared of a dentist chair. It was a horrible experience." "But I was so glad that he could have the surgery and it would not cost me $5000 to $6000. As far as the travelling and sleeping in X, I paid for it."

In terms of quality of dental care, some participants felt that dental professionals sometimes lacked compassion. This comment also applied to the other members of the dental clinics; some participants experienced disrespectful treatment by the clinic staff. "I have a problem with my grandson. He has problem with his teeth and when I took him to dentist and he is of course autistic, they were not very nice to him. I can't say it was the dentist but her staff." "I wanted the compassion that I did not receive. We need people who could have compassion." "The newer dentist we have in X, I am sorry but they don't make you feel comfortable."

Facing those issues, participants felt somewhat powerless. A few of them, particularly dissatisfied with the provided dental care, avoided taking legal action due to their link to the small community and possible stigmatization. "Recently, I had a problem. Even, I thought, I should file a complaint, but I was afraid of repercussions. I was perplexed with health services. I was not afraid of being judged but maybe about my confidentiality." "In general, as I said, this is a small community; confidentiality would not be at the same level as urban areas. Here everyone knows the ambulance driver that will get you, it may be your cousin; the nurse, it can be your auntie."

In terms of affordability, participants reported financial restriction and lack of insurance coverage as main barriers to oral health care. Lack of insurance was a greater issue for younger people with a low income. "So we can't afford to mainly go to regular visits to dentist." "If I have to have false teeth, I do, but I also have to watch my money." "I might ask if there was an alternative, anything cheaper." "Being again on the welfare system, it doesn't help financially to keep up with taking care of ourselves ... we think more for the children than ourselves."

Cues to action

Participants expressed that several factors such as severity of oral disease, financial resources, oral health knowledge, and values such as family respect and self-esteem could act as cues to action. "I would like to go more often, but unfortunately whenever I do get pain that's when it is an emergency." "Because when you work with the public your smile means a lot for yourself and your appearance. You want to look good."

They highlighted that family and friends, rather than health care providers, were the main source of motivation for oral health care. "If [my aunt] would cooperate, I would grab her, stick her in a car and bring her to the dentist." "Actually my fiancée has influenced me a lot. She helped me quite a bit. She has been a role model for me." "It was not my dentist who provided me with the information. Mr. Y informed me about oral health care."

Access to dental information

Elderly participants explained that they lacked accessible, appropriate information and educational programs about oral health that could help them to improve their knowledge about oral health. "It is just that people have more access in the city because the information is there wherever you turn around." "There's about 15 of us in daycare. We get the latest news, not so much on dental, mostly on medical care."

Few participants perceived that rural regions were less sensitive than urban areas to language barriers: "A lot of us don't speak French. People who talk French won't talk to you."

Most participants recommended that oral health education should be better provided and advertised. Flyers, pamphlets, and presentations in public places and schools were suggested to be as effective as knowledge transfer tools. In particular, elderly participants added that educational activities should be offered at nursing homes.

DISCUSSION

This study offers an overview of the numerous challenges that residents of rural areas face in terms of access to dental services. Although participants enjoyed various aspects of rural life, they encountered barriers to oral health, mainly owing to the limited availability and accessibility of dental professionals in rural areas. Other factors that explained the rural disparity in oral health were acceptability, accommodation and affordability of dental care. These issues were more problematic among people with specific needs and limitations, such as elderly people, people receiving social assistance or parents of children with special needs, and represent a serious public health problem. We hope that our findings will lead to the development of effective policies based on the perceptions and needs of rural communities.

In Canada, our policies, services and infrastructures focus on urban problems and discriminate against rural residents, because the Canadian rural population is small, diffuse and geographically isolated.[62–70] The problems of widening inequalities in health and health care access across rural Canada were recognized by the 2002 Commission on the Future of Health Care in Canada.[70] This commission

noted that geography is a determinant of health, and recommended that rural health policies promote equitable health outcomes and equitable access to health care.[70] The commission also supported research expansion to provide necessary information regarding the performance of health care systems in rural and remote areas.[70] However, not all health research domains heeded this recommendation, and almost a decade later, there are still no research initiatives regarding rural oral health. This is mainly attributable to challenges faced in conducting rural research in term of organization and implementation.[71]

The overall success in conducting this community-based qualitative study lies in part in its collaborative nature. Our experience supports the literature on the importance of proactive, collaborative, multifacetted approaches in community studies. These include developing an expert research team in the field, building a community–university partnership, creating and maintaining trust within the community, providing information about the research to local stakeholders and ensuring benefits to the community.[72]

In this study, we used a qualitative methodology.[73–75] The choice of approach or measurement tools depends on several factors, including the experience and personal training of researchers, the audience, the type of outcome and, most importantly, the type of research question.[73–75] Qualitative and quantitative research studies follow completely different approaches and design elements, including data collection and data analyses. In brief, qualitative research allows the researcher to generate a hypothesis, whereas quantitative research generates questions to test a hypothesis.[73–75] One of the major differences between qualitative and quantitative research is that qualitative approaches usually involve purposeful sampling, whereas quantitative approaches involve probability sampling.[54,73–77] Qualitative research values the deep understanding permitted by the information-rich cases without any generalization, and quantitative research values the generalization to larger populations permitted by random and statistically representative samples. Qualitative methods require different minimum sample sizes.[76,77] It is recommended that phenomenology include about 6 participants, and that ethnographies and grounded theory include about 30–50 interviews.[76,77]

We identified a number of problems related to access to dental care in rural areas in western Quebec. These included limitation in the choice of dentists, lack of specialized dentists for patients with special needs, lack of general anesthesia in dental care, and unwillingness of dentists to accept new patients or patients receiving welfare. These results suggest that there is a disparity in oral health care in rural areas, and this inequality may lead to poor oral health and dissatisfaction with care. Therefore, as academics, we should attempt to implement strategies that will promote dental practice in rural settings. These could include the following: undergraduate and postgraduate rural training programs;[78–80] recruitment of rural applicants; use of teledentistry, dental camps and mobile dental units to improve delivery of oral health care;[81] use of methods such as financial incentives and loan repayment programs to encourage dentists to establish practice in rural communities;[79] and provision of oral health training to other health care professionals.[67] There is growing evidence that interprofessional collaboration in health care positively influences outcomes in practice and education, and can be a solution for challenges related to human resources.[82]

We found that populations in remote areas need to be provided with adequate knowledge about oral health, especially older populations and populations with low levels of health literacy. Therefore, community health care providers and dentists should be involved actively in tailoring dental educational materials and programs. Furthermore, given the importance of families in promoting healthy behaviours and their role in decision-making about health care, their involvement in dental education could positively affect oral health outcomes and could decrease the financial and biological costs associated with poor oral health, such as caries or periodontal disease.

The results of this study, although limited, could be useful in the development of programs for oral health promotion for rural residents and in the development of collaborative rural research activities in the field of oral health.

Limitations

A key limitation of this study was the recruitment of participants from a single rural region in Quebec. Other rural and remote communities may have different experiences and needs owing to different environmental and cultural backgrounds. Thus, our findings cannot be generalized to all rural regions, and future studies are needed to explore rural and remote diversities.

CONCLUSION

Our results indicate that access to dental services is problematic in rural areas. We thus urge several sectors of society — academia, the government,

dental professionals and rural communities — to develop and implement strategies to improve access to oral health services.

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