

Résumé

Les croyances et les pratiques des femmes des Premières nations au sujet de la prise de poids pendant la grossesse et la période d'allaitement : implications en matière de santé des femmes

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De nombreuses femmes cries vivant dans le nord du Québec prennent du poids de façon excessive pendant la grossesse et conservent ce poids entre les grossesses. Un tel état engendre des problèmes de santé materno-fœtaux et une augmentation des taux de maladies liées à l'obésité. Cette étude qualitative descriptive a pour objectif d'explorer (a) les perceptions que détiennent les femmes cries concernant la prise de poids pendant la grossesse et la perte de poids après l'accouchement; (b) les obstacles auxquels les femmes font face quant au maintien d'un poids santé; et (c) la santé et le contexte socioculturel. Des entrevues semi-structurées ont été menées auprès de 30 femmes qui avaient accouché au cours des 12 derniers mois. Nombre de femmes ont témoigné des effets néfastes que produit une prise excessive de poids sur leur santé. Néanmoins, elles avaient de la difficulté à maigrir en raison de contraintes individuelles, tels le manque de temps et les croyances culturelles concernant l'alimentation pendant l'allaitement, et aussi à cause de contraintes collectives, dont l'absence de services à l'enfance et de programmes communautaires à l'intention des mères.

Mots clés : prise de poids, grossesse, allaitement

Beliefs and Practices of First Nation Women about Weight Gain during Pregnancy and Lactation: Implications for Women's Health

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Many Cree women in northern Quebec experience excessive weight gain during pregnancy and retain the weight between pregnancies. This contributes to poor maternal-fetal outcomes and increased rates of obesity-related health problems. The purpose of this qualitative descriptive study was to explore (a) Cree women's perceptions of weight gain in pregnancy and weight loss following pregnancy, (b) the barriers that women face in maintaining a healthy body weight, and (c) the sociocultural context of health. Semi-structured interviews were conducted with 30 women who had given birth within the preceding 12 months. Many women spoke of the negative health consequences of excessive weight gain, yet they found it difficult to lose weight due to individual constraints such as lack of time, cultural beliefs about diet while breastfeeding, and community constraints including lack of child care and lack of community programs for mothers.

Keywords: First Nation women's health, weight gain, social determinants of health, pregnancy, breastfeeding

Introduction

First Nation women are considered at risk for pregnancy complications (e.g., gestational diabetes), negative infant outcomes (e.g., low birth weight [< 2500 g] and high birth weight [> 4000 g]) (Health Canada, 2003). Among the James Bay Cree of northern Quebec, approximately 75% of women begin pregnancy overweight or obese and almost 50% gain excessive weight during pregnancy (Brennand, Dannenbaum, & Willows, 2005). Repeated cycles of pregnancy may magnify some adverse outcomes if women retain weight gain from each pregnancy. Recent research indicates that between 12.8% and 18.6% of Cree women develop gestational diabetes mellitus (GDM) and that overweight or obese women are at greatest risk (Brennand et al.; Rodrigues, Robinson, & Gray-Donald, 1999); these rates of GDM are significantly

higher than the 2% to 4% prevalence in the general population of pregnant women (Meltzer et al., 1998). Gestational diabetes and obesity are two risk factors for high birth weight. Among the James Bay Cree, more than one third of newborn infants are macrosomic, weighing more than 4,000 grams (Armstrong, Robinson, & Gray-Donald, 1998; Brennand et al.).

Interventions for First Nation women to prevent pregravid obesity and excessive weight gain in pregnancy must be developed if maternal/fetal outcomes are to be improved. Unless the range of factors affecting the health of Cree women is considered, however, interventions will meet with little success (Special Working Group of the Cree Regional Child and Family Services Committee, 2000), as sociocultural context has both positive and negative effects on women's ability to pursue and maintain health.

The objective of this study was to explore Cree women's perceptions of weight gain in pregnancy and the barriers to maintaining healthy body weight. In this paper, following a description of methods and analysis, we offer some background on the James Bay Cree in order to provide a historical context for assessing current health experiences. We then present our analysis of Cree women's voices, highlighting the ways in which social determinants affect their ability to adopt health-promoting behaviours.

Field Site and Methods

Context

Due to concerns about excessive weight gain in pregnancy, the Cree Board of Health and Social Services of James Bay supported a qualitative descriptive study to examine women's perceptions of weight gain in pregnancy as well as barriers to healthy living. The project was conceived by community members. Three of the authors (DD, QS, and NDW) were members of a working group comprising health-care professionals in the region. The purpose of the working group was to develop strategies for better understanding Cree women's perceptions of weight gain in pregnancy and weight loss following pregnancy, with the goal of improving prenatal and postnatal care. This community-based study was conducted with Cree women living in James Bay (Eeyou Istchee) over a 2-month period in 2004. Semi-structured interviews were developed and conducted with the aid of a community clinician (DD) and two Community Health Representatives (CHRs) (QS and BP), who were Cree community members trained in health-care education and promotion.

Description of Communities

The CHRs recruited participants from two of the nine communities in the region. The first community was home to approximately 3,500 people, with the nearest town being 90 minutes away by automobile. Fresh produce was available in only one grocery and was expensive (Willows, Iserhoff, Napash, Leclerc, & Verrall, 2005). Prepared food (e.g., deep-fried chicken and French fries) was also available in this grocery, and was usually sold out by dinnertime. Of the two restaurants, community members patronized one more than the other because it was more affordable; this restaurant served mainly fast food and was usually busy.

The second community was smaller, with approximately 3,000 people, and more remote. Little fresh produce was available in the main grocery, and it was expensive and often of poor quality. Healthy foods were difficult to find. Most food items available were either frozen (e.g., pizzas, French fries, egg rolls) or of little nutritional value (i.e., junk food); the latter items were predominantly displayed at the checkout counters. A second, smaller, grocery was stocked with frozen products and foods of little nutritional value, and this was where young people congregated in the evenings.

Both communities had a fitness centre but the hours were erratic and paid membership was required. Neither community had a swimming pool.

Methods

This qualitative descriptive study (Sandelowski, 2000) was designed to gain an understanding of Cree women's concepts and experiences of weight gain in pregnancy and weight loss postpartum, in order to better comprehend both the barriers that women face in maintaining a healthy body weight and the sociocultural context of health in Cree communities. The trustworthiness of qualitative research reflects efforts to meet the criteria of credibility, transferability, dependability, and confirmability (Guba, 1981). Credibility was ensured through the use of interviews, a means of data collection commonly used in qualitative descriptive studies (Sandelowski), the longstanding professional relationship between the principal investigator (NDW) and members of the community and the Cree Board of Health, and efforts to elicit candour on the part of participants (e.g., obtaining informed consent). Although the transferability (generalizability) of the study is limited by the heterogeneity of First Nation cultural beliefs and practices, we have described the historical and current context of the participating communities to enable comparison

with other communities (Shenton, 2004). By describing the methods employed, we have met the criteria of dependability and confirmability (Shenton).

The interviews consisted of open-ended questions on women's concepts of a healthy weight, diets, and appropriate weight gain and on barriers to achieving health. A convenience sample of 30 Cree women were interviewed (14 from one community and 16 from the other). All the women had delivered an infant within the preceding 12 months. Women in these communities typically have their children when young and all participants were aged 30 or under. Fluency in English was not a requirement for participation as CHRs were able to translate questions and responses from Cree into English and vice versa. This factor was considered important, because by selecting only women with a good command of English we could have excluded women with less formal education or those who did not travel far from their communities. All the women gave informed consent to be interviewed and had the option of ceasing the interview at any point or requesting that their interview data not be used. The interviews were conducted in the participants' homes or in community centres and lasted approximately 30 minutes. The study was approved by the Human Research Ethics Board of the Faculty of Agriculture, Forestry and Home Economics, University of Alberta.

Data Analysis

The interviews were audiotaped, translated into English where required, and transcribed. Data analysis was content-based (DeVault, 1990). In other words, we examined the data for patterns of what women said, instead of conducting a narrative analysis of the content. This method is useful for exploring themes. Qualitative data were coded by reviewing all cases. Codes were formulated through line-by-line analysis of concepts that were identified in the data. Comparative analysis led to the development of categories. This level of analysis examined how women used the codes defined in the first stage. Themes were developed from the categories that emerged from the data and through a comparison of these concepts with those reported in the literature. Data analysis was conducted by one researcher (HV). An important aspect of trustworthiness in qualitative research is that the interpretation represent not only the perspective of academics but also that of the participant communities — in other words, reciprocity (Harrison, MacGibbon, & Morton, 2001). In keeping with reciprocal research, the CHRs read the manuscript to ensure that it represented the women's viewpoints, and members of the Research Committee of the Cree Board of Health were given the opportunity to review the resultant manuscript.

Background

We now offer a brief historical overview of James Bay in order to provide a historical context for the difficulties faced today in pursuing a healthy lifestyle. Traditionally, the Cree lived in small mobile family groups and subsisted by foraging (Preston, 1981). With the arrival of Europeans in the area in the 1600s, and especially upon the arrival of Christian missionaries in the mid-19th century, pressure steadily increased to change traditional lifeways. Settlement in permanent villages was “encouraged,” with a concurrent rise in infectious-disease epidemics and a gradual decline in traditional means of subsistence. Cree religious and health systems, among other aspects of their culture, were undermined (Niezen, 1997). Families were separated so that children could be educated according to Canadian government standards. Children were sent to residential schools as recently as the 1960s (Kirmayer, Boothroyd, Tanner, Adelson, & Robinson, 2000).

The *James Bay and Northern Quebec Agreement* of 1975 allowed for hydroelectric development in the area. In return, the Cree received a formal land-claim settlement, monetary compensation from the provincial and federal governments, and local autonomy (confirmed with the *Cree/Naskapi [of Quebec] Act* of 1984). Although these agreements have resulted in improved access to schools and to infrastructure development (electricity, water, sewage), a number of problems have developed or have worsened, including unemployment, loss of traditional means of subsistence, contamination of the traditional food supply due to flooding, loss of traditional customs, widespread alcoholism, substance abuse, and psychosocial problems (Adelson, 2000; Berkes & Farkas, 1978; Frideres & Gadacz, 2001; Kirmayer et al., 2000; Niezen, 1997). One must understand the legacy of this dramatic cultural change in order to understand the macro-level factors affecting the health of Cree peoples today.

Results

Characteristics of Participants

The average age of the 30 participants was 21.7 years (range = 18–30 years). All of the participants were overweight or obese, defined as BMI > 25.0 (Health Canada, 2003). The majority of participants (73%) had more than one child. None had postsecondary education, with slightly more than half having completed high school. Although proficiency in English was not an inclusion criterion, all of the women were able to read and speak English either fluently or with some hesitancy. The majority of the women cohabited with the father of their youngest child

in either a marital or a common-law relationship. Younger mothers were more likely than older mothers to be residing with their parents or with their child's paternal grandparents. The male partner often worked outside the community, which required the woman to live alone with her children for extended periods. Most of the participants were not employed outside the home.

Weight Gain During Pregnancy: "Only a little"

About two thirds of the participants stated that gaining weight during pregnancy was "normal." (Most of the women defined normal weight gain as between 20 and 30 pounds.) Only 30% of the participants thought they had gained too much weight. The main criterion used to assess adequacy of weight gain was birth outcome. If the health of the baby and mother was fine, then the women assumed that the amount they had gained was "good." For example, when one participant was asked why she thought she had gained the right amount, she replied, "Because she [her baby] was eight pounds when she was born."

The importance of not gaining too much weight was also discussed. The participants said it was important to gain "only a little" or one could face a number of health risks and complications during the birth:

What do I think about gaining weight? It's...not healthy. It's not normal. Well, maybe it's normal...to a certain extent. The weight of the baby is supposed to be the only weight gain. That's what I thought. Not me, because then I risk...getting diabetes or other stuff... [I should gain] just the baby, the baby's weight. (19-year-old mother of one)

The women were exposed to "Western" conceptions of health and beauty through satellite television, magazines, and, for some, the Internet. They frequently expressed dissatisfaction with their bodies. Some voiced concern about what excessive weight gain would do to their figures. Although the participants considered it normal to gain weight during pregnancy, they did not want to gain weight:

It's okay at first, like, while you're pregnant, because you know that you're carrying your child, but...afterwards when you have your baby, it's sort of like "Okay, like, I've never been this big before." ...it kind of puts you down at first, but then you realize that you were carrying your child and, you know, it's just something that I guess the changes in your body do, so it was okay afterwards...once I really realized why I gained the weight. (20-year-old mother of two)

The women's fears about weight gain centred around its effect on their figures postpartum:

What do I think of it [weight gain during pregnancy]? [pause] Well, I don't like to gain weight. Like, I hate being fat. (18-year-old mother of two)

Yet changes in body size and shape were seen as a normal part of motherhood. One mother described her weight challenges after pregnancy, when her weight plateaued:

I find it kind of hard, especially, like, emotionally. I don't really like the way I look because I can't go back to my normal pant size. I have to...buy other clothes, so...at this point I have to wear baggy clothes just to hide my figure...and it's kind of sad but it's how I am... I guess I have to get used to it because I'm a mother now. (19-year-old mother of one)

Weight Loss Postpartum: "Important...but hard"

Losing weight postpartum was considered important by the majority of women, primarily because of the implications for maternal health and energy levels. The women understood the relationship between overweight/obesity and health problems:

When you gain weight...your...blood pressure goes up or you end up being diabetic, or you have a heart problem.... You get high blood pressure, you get nosebleeds a lot because you're overweight, and you get sweaty. (26-year-old mother of five)

The mothers were concerned for their own well-being because child care requires vigour and physical effort. Being heavy limits one's ability to run after toddlers or to take part in the play activities of older children:

It takes a lot of hard work to raise a child...and in order for you to do that, to be able to...do the things that they do — you know, take them out for a walk — you have to be a healthy weight. (20-year-old mother of two)

Despite the importance of losing weight postpartum, the majority of women said they had difficulty doing so. A number of explanations were given for the challenges they faced, which can be categorized as individual constraints, cultural beliefs, and lack of community support and services.

Individual constraints. A number of factors affected the women's ability to pursue a healthy lifestyle and lose their pregnancy weight. The participants said they lacked the energy to exercise and to watch what they ate. Staying at home could be isolating, and for some women food became a way to fill a void. Eating was something to do to pass the time.

A 21-year-old mother of two said, “Once she’s sleeping [the baby]... How do I say this? I have nothing else to do except eat.”

Lack of time to cook or to exercise was another factor. This was an issue for both working and stay-at-home mothers. Working mothers wanted to spend their non-working hours with their children. Stay-at-home mothers had difficulty taking care of the domestic chores in addition to watching older children. They found it hard to make the time to exercise.

Lack of knowledge about a healthy lifestyle — or at least how to use such knowledge — was another factor. The participants did not know how to make better choices with regard to diet or level of physical activity. Furthermore, they found it difficult to break old habits. An 18-year-old mother of two said, “I didn’t watch how I ate, and I didn’t know how to.” Some women used pregnancy as an excuse to eat whatever they wished or craved and found it a challenge to break the pattern:

You kind of keep those habits that you had...during the 9 months of your pregnancy. You don’t want to let go. For one example, I didn’t really drink that much pop before I was pregnant, but when I was pregnant I loved to drink, you know, diet Coke...it’s kind of hard to let go of those things...you kind of still get used to it...you’re so comfortable with it. It’s hard to change...the eating habits you gained through your pregnancy. That’s what I noticed. And especially when you want your baby to gain weight, you might as well eat with her. (19-year-old mother of one)

Cultural beliefs: “You have to eat to breastfeed; you have to get the milk flowing.” The majority of the women breastfed their infants. From their elders, the participants had acquired cultural beliefs about the need for maternal food consumption sufficient to ensure the health and well-being of both mother and infant. However, women of previous generations lived in the bush; they had a low-fat diet and engaged in vigorous physical activity. Traditionally, weight loss was believed to affect milk production: a woman who lost too much weight would be unable to produce enough milk to feed her infant and the child would be malnourished. Women were encouraged to eat in order to initiate and continue lactation. The participants believed, in essence, that the breastfeeding mother is eating for two:

...you were told in order for you to have more milk, for you to produce more milk, that you have to eat because you’re eating for two people, and even after you’re pregnant...you’re still going to be feeding two, so you have to eat more.... And you always felt good when you gained weight too, because you know that you’re going to have, you think you’re going to have more...milk for your baby.

The participants had difficulty losing their pregnancy weight because of beliefs about eating during lactation, as illustrated by the comment of a 25-year-old mother of three:

It's not that important [to lose weight postpartum], but maybe later on in years... Because you have to eat often when you breastfeed, drink often, and it's very hard to lose weight when you're breastfeeding. That's what I think.

However, the participants did not perceive the quantity of food consumed by a breastfeeding mother as necessarily affecting her body size or shape, because the added consumption went into the breast milk: the baby would “suck up all your calories.”

You can't gain or lose weight when you're breastfeeding, because...everything normally goes to your breast and a small amount goes to your stomach. So you're not really losing or gaining any weight. It doesn't matter how much you eat. (26-year-old mother of five)

They considered it important for the mother to eat well, because the quality and quantity of her intake affected the quality and quantity of her milk supply. They also believed that the mother's milk composition affected the health of the baby. One mother said she watched her diet carefully, avoiding junk food and pasta and eating yogourt and traditional foods, so that her infant would not suffer from colic. Another mother avoided spicy foods because these would hurt her infant's stomach.

The participants also believed that breastfeeding was good for the health of the child. They perceived breastfed infants as less likely than bottlefed infants to become ill, even after they have been weaned:

Well, my grandmother always told me...that it was hard a long time ago when they were living in the bush because she had to breastfeed because they had no milk, they had no fridge... They were in the bush all year round...she had to breastfeed her kids all the time...by the time they turned 1 then she started feeding them solid foods, so she told me it was best to breastfeed a child because they'd get sick less when they got older... I guess she was right, because I breastfed my eldest daughter for 6 to 6½ months and she hardly gets sick, so I'm glad I did. (26-year-old mother of five)

Thus, traditional cultural beliefs emphasized the importance of eating and drinking while breastfeeding in order to ensure the health of both mother and child. However, the difficulty of many breastfeeding mothers in losing weight was related to their food choices, as pointed out by a 25-year-old mother of four:

[Weight loss after pregnancy] depends on...if they're eating the right foods or not, like, if they just eat...fast foods... I think that's how they don't lose it.

Lack of community support and services. Use of daycare and babysitters was not common among the participants, and they often cited lack of finances and transportation as a barrier to accessing community services such as fitness programs. The lack of community services for new mothers prevented many women from pursuing a healthy lifestyle. One of the main complaints centred on the lack of child-care facilities. The women, especially single mothers, could not exercise if they could not leave their children in quality, affordable child care. The participants also pointed to the lack of exercise facilities, especially programs for new mothers. In addition, new mothers were often kept indoors because of inclement weather, so housekeeping was their only form of physical activity.

The participants expressed great interest in the idea of exercise programs for new mothers, such as walking clubs and aerobics classes. Fitness programs that included children, such as “mothers and tots” activities, were also suggested:

[If] there was some support...after pregnancy it would be really something, like an exercise group or swimming or something like that for a woman, especially with their children too. ...a swimming activity with your baby — that would be really cool!... Around here...it's kind of hard to get a...sitter after hours...most of the time alone... The father is there but [he] has to go to work. (19-year-old mother of one)

Although there were nutritionists based in the communities, the participants did not see them as an effective means of reaching the people. They believed that more creative ways of providing nutrition education to new mothers had to be found, such as community cooking classes or home-based nutrition evaluation:

What I find in the community...is people listen to the radio a lot, and I think we can inform them through the radio about what they can eat... and there's different things that can be done, like cooking classes...or get-togethers at somebody's house, and just learn, teach, learn from each other...how to cook healthy meals. (30-year-old mother of two)

A few of the women said that elders could be involved in such activities. They believed that as a source of traditional knowledge about healthy lifeways, elders could make a contribution by contrasting current lifestyles with life in the bush.

Defining Healthy Lifestyles

If healthy interventions are to be developed, women's perceptions of a healthy diet and appropriate physical activity will have to be better understood. The factors that women identify as barriers to pursuing a healthy lifestyle can also be used in the development of programs. For many of the participants, keeping a healthy diet meant eating plenty of vegetables and fruits, in essence following the *Canada Food Guide* (in fact, a few of the women mentioned this publication). They also considered traditional foods (wild or country foods) an important aspect of a healthy diet:

I think what helped me the most was eating traditional food. Even though I never really liked one food [one kind of traditional food], I ended up liking that traditional food... And it kind of helped me. I didn't really have to eat a lot... It, like, stuck there with me and the baby, you know, for a while it lasted. And when I was eating... just that regular food there, that they sell in supermarkets, I noticed that I felt hungry more. (19-year-old mother of one)

These foods connote more than just health. They also symbolize Cree culture or way of life.

All of the women defined physical activity as walking. They viewed walking as an effective way of exercising without having to go to a gym or leave the house at a particular time. They considered walking the best form of exercise during pregnancy because it does not overstrain women. Many of the participants expressed the view that exercise during pregnancy was important not only for health reasons, such as preventing gestational diabetes and other complications, but also because it resulted in an easier labour and birth. A 26-year-old mother of five explained:

To walk at least two to three times a day during pregnancy [is needed] just to keep healthy and just to keep strong, to keep your legs strong and your bones strong, because you'll need them when you...go into labour.

Other ways of staying physically active included housework, swimming, and not "sitting around" or napping during the day. Most of the participants believed they had maintained a healthy lifestyle while pregnant, eating properly and being physically active.

As with traditional foods, traditional lifeways (i.e., living in the bush) had cultural meaning for the women, and they saw physical activity as a part of life in the bush:

It's more active when you're living in a bush, like when you're on a trap line and you go with your grandparents or whoever you're living with. You do more stuff, you do more active stuff when you're in the bush.... You're

not really sitting around all the time, you're always doing something, there's always something to do. Especially when you're pregnant.... I would recommend...a lot of pregnant [women] to go out in the bush with their families when they know they're pregnant. Be more active when they're in the bush, it's a lot more work. (26-year-old mother of five)

Discussion

The purpose of this study was to explore the social determinants of the health of First Nation women through interviews with James Bay Cree mothers. The findings indicate that many factors interact to form barriers to a healthy lifestyle. The participants were aware that gaining excessive weight had negative implications for their health, but they generally found it difficult to control their weight gain during pregnancy and to lose weight postpartum. Eating to ensure a healthy baby was integral to their cultural beliefs about maternal dietary practices. Factors at the individual, family, and community levels all played a role in the participants' ability to control their weight during and after pregnancy.

Although the health of First Nation women should be considered in historical context, because the effects of colonialism and domination may affect the health and well-being of individuals and communities (c.f. Waldram, Herring, & Young, 1995; Young, 1994), it must be acknowledged that women have agency to effect positive change. In addition, every community possesses the capacity, resilience, and strengths to be health promoting; for this reason, interventions and programs should focus on the inherent resources and cultural dynamics of a given community (Kretzman & McKnight, 1993).

The participants showed a mixed understanding of the appropriate amount of weight gain during pregnancy. For women who are overweight or obese, the recommended weight gain is 15 to 25 pounds (Health Canada, 1999). The weight gain considered normal by the participants, all of whom were overweight or obese, was often higher than that recommended by health professionals for optimal pregnancy outcome. The participants interpreted messages on weight gain in a cultural context. If the mother and infant were healthy and the birth was uncomplicated, the mother assumed that she had gained an appropriate amount of weight. The majority of participants did not own scales, so it is unlikely that home weight monitoring took place; thus weight regulation was contingent upon regular prenatal care. What may be more important is how the women felt about their health and their body size and shape. In fact, the participants who did express concern about their change in weight as mothers focused on how their clothes fit and the

corresponding changes in body shape, or on avoiding illness such as gestational diabetes and high blood pressure.

Being “healthy” meant eating the “right” foods, being physically active, and being in touch with traditional lifeways (i.e., spending time in the bush). Healthy eating meant consuming vegetables, fruits, and traditional (country) foods and avoiding junk or fast foods. Being physically active meant including movement in one’s daily routine, through household chores, minding children, and walking. To live in the bush was perceived as a healthy way of life, for the bush was viewed as a traditional place where being healthy was part of life. This perspective on health corresponds to the Cree concept of *miyupimaatisiun*, or “being alive well,” in which the emphasis is placed on quality of life rather than on aspects of the physical body (Adelson, 2000; Niezen, 1997). Previous studies with First Nation communities in northern Canada also found a relationship between traditional lifeways, country foods, and health (Borré, 1991; Freeman, 1988; Wein, Freeman, & Makus, 1996).

The Cree definition of health as a way of living also illustrates the web of factors that affect health and well-being within social, political, and historical contexts. Health researchers and practitioners should examine health in an ecological context — in the sociopolitical as well as the physical environment. The present findings clearly demonstrate the confluence of factors that impact on women’s lifestyle choices. The participants’ dietary intake and level of physical activity were influenced by time, energy, and knowledge constraints. Using their knowledge about healthy eating was a particular challenge. Although the women were aware of the importance of making healthy food choices, they often succumbed to the temptations of the prepared, refined foods available in grocery stores and restaurants. For them, the planning and preparation of healthy meals was labour-intensive, time-consuming, and expensive, and it was simply easier to resort to store-bought foods. The increasing trend towards the consumption of store-bought products in northern communities, despite the high value placed on country foods, is well documented (Berkes & Farkas, 1978; Duhaimé, Chabot, & Gaudreault, 2002; Wein, Sabry, & Evers, 1989).

Part of the difficulty in maintaining a healthy lifestyle was the lack of domestic help. Many of the participants were single or were partnered with a man who was employed outside the community. These types of family structure meant that there were few people on whom the women could rely for child-care assistance. Both stay-at-home and employed mothers spoke about the lack of affordable quality child care.

The participants also spoke of the need for community facilities where new mothers could exercise while having their children nearby and the need for a place for new mothers to gather, share, and learn from

each other. Community changes cannot happen in a vacuum. The sociopolitical context of these Cree communities must be considered. Nutrition seminars, cooking classes, and home-visiting programs require trained personnel. Such personnel are usually non-Cree from the south who have little training in the Cree language and culture (see Adelson, 2000). The biomedical model of health, which does not incorporate Cree models of health and food, continues the process of colonization (Niezen, 1997). For many Aboriginal peoples, perceptions of healthy eating are embedded within cultural meanings of food and health (Willows, 2005). In the holistic Cree concept of *miyupimaatisiun*, the interaction of the social and physical environments is embodied in the individual. This concept could be a starting point for responding to the multifactorial aspects of weight gain among young mothers. Interventions that target individuals, emphasizing behavioural changes, may have limited success, for they do not consider the environment in which these women live. We advocate programs that have cultural meaning for the Cree and that value Cree concepts of well-being (such as eating well when breastfeeding). Such programs can be developed only through the inclusion of Cree voices — elders, healers, and the mothers themselves. The problem of obesity among Cree women must be addressed using a multi-pronged approach.

This study is limited in two respects. First, the participants were encouraged to respond in the language of their choice; translation of Cree into English may have resulted in a failure to capture subtleties of the ideas they expressed. Second, we used a convenience sample of young mothers from two communities; the women in those communities may not necessarily share the participants' views on appropriate weight gain and loss during and after pregnancy.

In conclusion, the health of First Nation peoples is, on average, poorer than that of the general Canadian population. A social determinants perspective allows us to highlight the multifaceted nature of health and well-being and to see how the health of an individual is affected by the current social and physical environments, which, in turn, are shaped by historical events (Waldram et al., 1995). The present findings show clearly that before we can begin to moderate weight gain among Cree women, we need to understand the factors and processes, at the individual, family, and community levels, that influence their ability to adopt healthy lifestyles.

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