
Overweight in First Nations Children: *Prevalence, Implications, and Solutions*

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Abstract

Obesity is a condition of excessive body fat to an extent that health may be compromised. Overweight children have high weight for their height and may be at risk for obesity and its complications. In Canada, children are classified as obese or overweight based on their body mass index (BMI), which is the ratio of a child's weight to height. A child with a high BMI typically has excess body fat and is referred to as obese. Although national survey data is lacking, the available evidence suggests that Aboriginal children and youth living in Canada have a high rate of overweight and obesity. Childhood obesity is associated with health problems such as type 2 diabetes, high blood pressure, high levels of fat and insulin in the blood, joint problems, gallstones, and breathing problems when sleeping. Considering the high rate of type 2 diabetes in Aboriginal communities, the health risks associated with obesity in childhood may be high for Aboriginal children. National surveys are required to interpret the extent of the problem in Canada. However, the available evidence suggests a need for programs to prevent obesity in children in Aboriginal communities. The development of programs requires a better understanding of the biological, community-level, cultural, and social contributions to obesity in children. Community-based research that examines the factors associated with obesity in Aboriginal children (e.g., characteristics of the mother, activity level, dietary intake, and body fat); looks at cultural perceptions, attitudes, and knowledge about overweight children; and identifies community barriers to the adoption of healthy lifestyles is required.

Key Words

Children, obesity, program planning, community-based research, Native American, diabetes, First Nations children

INTRODUCTION

Obesity is a condition of excessive body fat to an extent that health may be compromised. Overweight children have high weight for their height and may be at risk for obesity and its complications. Many definitions of obesity and overweight have been used in the past. Some researchers in the past have included obese children within the overweight category while other researchers have excluded obese children from the category of overweight. For these reasons, direct comparison of the rates of overweight and obesity from different studies should be made with caution. Hopefully, the 2000 release of pediatric growth charts that allow the terms overweight and obesity to be defined will resolve this problem.

Direct measures of body fat are not practical for clinical or community practice. For this reason, body mass

index (BMI), which correlates well with body fat, is now widely used to define overweight and obesity. BMI is the ratio of weight in kilograms to the square of height in metres. Pediatric growth charts that provide BMI reference values for children are available online at <http://www.cdc.gov/growthcharts>. Growth charts compare a child's BMI to that of other children using percentiles. The child's BMI percentile is in relation to other children of the same age and sex. The 50th percentile is the average BMI value for age. If a child's BMI is the 95th percentile that means the child's BMI is greater than or equal to the BMI measurements of 95 per cent of children that age. The remaining five per cent of children that age have a BMI that is greater than that child's. In Canada, a child with a BMI between the 85th and 95th percentile is considered overweight and a child with a BMI at or above the 95th percentile is considered obese.

In Canada and the United States, there is a high rate of overweight and obesity in boys and girls.¹ There are noticeable differences in obesity rates among racial-ethnic groups. The reasons for these differences are unclear, but are likely the result of economic, social, and cultural factors that directly or indirectly affect the distribution of body weight in a population. In both Canada and the United States, the rate of overweight and obesity is considered to be higher in Aboriginal children than in the non-Aboriginal population (see Table 1). However, there have been limited surveys of these conditions in Aboriginal children in Canada.

Given the negative affects of obesity on health, the prevention of excess body fat that might lead to obesity must begin as early in life as possible. Programs for the prevention of obesity in Aboriginal children must be implemented. To be effective, prevention programs must not focus solely on changes in individual behavioural patterns. They must also focus on eliminating environmental barriers to healthy food choices and active lifestyles.²

The intent of this paper is to provide a review of the research published since 1990 on the rate of overweight and obesity and associated risk factors in Aboriginal children living in Canada and the United States. This paper also outlines areas of research that are required to develop effective interventions against obesity in children in Aboriginal communities.

RESEARCH RELATED TO OVERWEIGHT AND OBESITY IN FIRST NATIONS CHILDREN

Cree of James Bay, Quebec

The Cree of northern Quebec, whose population numbers 14,000, live in nine rural or remote communities. Historically, the James Bay Cree were hunters, fishers, and trappers. Since the late 1970s, the lifestyle of the people has changed dramatically with a noticeable decrease in physical activity and a change in diet to one that is largely market food. In 2002, 15 per cent of the population over 20 years had type 2 diabetes compared with 4.7 per cent of the population of Quebec. Diabetes has been diagnosed in youth.³ Obesity in children is a serious health problem. The rates of obesity has increased during the 1990s (see Table 1).⁴ In the early 1990s, it was found that overweight children participated less in physical activity and consumed fewer servings of milk products and fruits and vegetables than their normal-weight peers. Total energy intake from food was not evaluated.⁵ Overweight is observed early in childhood in this population with

the majority of preschool children being overweight or obese.⁶ Cree children living in the region 60 years ago had healthy body weights with only two per cent being obese.⁷ Due to geographic and cultural isolation, the James Bay Cree are a relatively genetically-stable population. This suggests that the increase in body weight reflects dramatic environmental alterations and, perhaps, an increase in biological risk factors for childhood obesity.

Mohawk of Kahnawake, Quebec

Kahnawake is an urban Mohawk community near Montreal. The traditional diet consisted of corn, beans, and squash supplemented by foods acquired through fishing, hunting, and gathering. In contrast, the current diet is predominantly market food. There is a high rate of type 2 diabetes and associated disease in adults in Kahnawake. For this reason, a school-based diabetes prevention program was started in 1994.⁸ Since the start of the program, there has been intense study of weight in children. The prevalence of overweight children is high (see Table 1).⁹ Because Mohawk children carry excess abdominal fat, the health risk of overweight is potentially heightened.¹⁰ Television viewing is related to body fat in these children and children obtain a high percentage of food energy from sugar.¹¹

Oji-Cree in Sandy Lake, Ontario

Sandy Lake First Nation is an isolated community in the boreal forest region of central Canada. The traditional hunting and gathering lifestyle of the inhabitants has been altered dramatically over the last few decades, comparable to the Cree of James Bay, Quebec. Likely due to this transition in lifestyle, illness

EDITOR'S NOTE

Body Mass Index is the ratio of weight in kilograms to the square height in metres.

A BMI of 18.5 or under is considered underweight.

A BMI of 18.5 to 24.9 is considered normal.

A BMI of 25 to 29.9 is considered overweight.

A BMI of 30 or more is considered obese.ⁱ

- i. "Canadian Guidelines for Body Weight Classification in Adults," (Ottawa: Health Canada, Office of Nutrition Policy and Promotion, 2003) available at http://www.hc-sc.gc.ca/hpfb-dgpsa/onpp-bppn/qa_public_e.html (accessed Feb. 8, 2005).

due to obesity and type 2 diabetes in adults is common.¹² Children are overweight (see Table 1) with the rate being highest in preschool children (45.2 per cent in girls aged two to five years old). In those aged 10 to 19 years, overweight children watched more television, had a lower fitness level, and ate less fibre than children who were not overweight.¹³

Anishnabai Temagami First Nation, Ontario

The Anishnabai Temagami First Nation located four hours north of Toronto is home to more than 200 permanent residents. Residents trace their history back 6,000 years in the area. A descriptive study showed that the rate of obesity was high among 38 Anishnabai youth ages five to 19 years (see Table 1). When data was compared against residents of European ancestry living in a nearby town, Anishnabai youth had a greater rate of obesity and subcutaneous (under the skin) fat and fat around the waist.¹⁴ Factors associated with obesity were not studied.

The United States

National surveys of Native American schoolchildren in the United States indicate that many are overweight or obese.¹⁵ Studies of specific tribes show high rates of overweight among Navajo, Pueblo, Sioux, Pima, and Winnegabo or Omaha children (see Table 1).¹⁶ High body fat contributes to overweight.¹⁷ Obesity begins early in life considering the high rate of obesity reported in American Indian preschool children (see Table 1).¹⁸ A study comparing the activity levels of Pima children (average age of 10 years) and their non-Native American counterparts found that Pima children spent significantly less time doing sport leisure activities and more time watching television.¹⁹ A study of Cherokee teenagers found no association between body measurements and energy intake or dietary patterns. Although it appears that overeating did not contribute to obesity, levels of physical activity were not assessed.²⁰ Research of Navajo adolescents found heavier youth had lower energy intakes than leaner youth. Physical activity levels were not assessed.²¹

Table 1a: Prevalence of Overweight and Obese First Nations Schoolchildren and Youth in Canada Compared with the General Population of Childrenⁱ

	Overweight (%)	Obese (%)
General Population of Children ⁱⁱ	about 30	about 10
First Nations and Inuit Regional Health Survey (late 1990s) ⁱⁱⁱ	6 (boys), 7 (girls)	
Cree in Northern Quebec (early 1990s) ^{iv}	38	9 (boys), 24 (girls)
Cree in Northern Quebec (late 1990s) ^v	24	35
Mohawk of Kahnawake, Quebec ^{vi}	29.5 (boys), 32.8 (girls)	
Oji-Cree in Sandy Lake, Northern Ontario ^{vii}	27.7 (boys), 33.7 (girls)	
Anishnabai Temagami First Nation, Ontario ^{viii}		29

- i. The reference standards for defining overweight and obese differ among studies. Some studies include obese children within the overweight category while other studies exclude obese children from the category of overweight. Therefore, direct comparison of the prevalence rates of overweight and obesity should be made with caution.
- ii. M.S. Tremblay and J.D. Willms, "Secular Trends in the Body Mass Index of Canadian Children," *Canadian Medical Association Journal*, Vol. 163, No. 11 (2000) p. 1429-33.
- iii. H. MacMillan et al., *Children's Health: Chapter 1: First Nations and Inuit Regional Health Survey* (Ottawa: First Nations and Inuit Regional Health Survey National Steering Committee, 1999). This information is based on reports from parents from select First Nations reserves across Canada and Inuit communities in Labrador. It did not include children from Alberta, the territories, or some areas of Quebec (James Bay Cree, Nunavik Inuit and Mohawk communities).
- iv. L. Bernard et al., "Overweight in Cree Schoolchildren and Adolescents Associated with Diet, Low Physical Activity, and High Television Viewing," *Journal of the American Dietetic Association*, Vol. 95, No. 7 (1995) p. 800-2.
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CONSEQUENCES OF OBESITY ON HEALTH AND WELL-BEING OF ABORIGINAL CHILDREN

Psychosocial Concerns

Obese children can have poor self-esteem and feel bad about their bodies.²² Until recently, little attention

has been paid to the weight perceptions and weight control practices of Aboriginal youth. Most of the available studies show a high rate of eating disorders.²³ Two national surveys of weight control practices and weight perceptions in American Indian youth showed many adolescents to have weight dissatisfaction, low body pride, and weight concerns.²⁴ Overweight youth were less likely than nonover-

Table 1b: Prevalence of Overweight and Obese First Nations Schoolchildren and Youth in the United States Compared with the General Population of Childrenⁱ

	Overweight (%)	Obese (%)
General Population of Children ^x		10-15
National surveys ^x	25-39	9-11
American Indian and Alaska Native Preschool children ^{xi}		12 - 19
Navajo (late 1980s) ^{xii}	25 (boys), 33 (girls)	
Navajo (early 1990s) ^{xiii}	35 (boys), 40 (girls)	
Navajo (mid 1990s) ^{xiv}	41	15 (boys), 21 (girls)
Pueblo ^{xv}	40.4	
Sioux ^{xvi}	32.1 (boys), 30.6 (girls)	3.6 (boys), 6.1 (girls)
Pima ^{xvii}	74.6 (boys), 78.3 (girls)	44.1 (boys), 51.8 (girls)
Winnegabo and Omaha ^{xviii}	32.7 (boys), 34.4 (girls)	16.4 (boys), 13.4 (girls)
New Mexico Indian ^{xix}	35.5 (boys), 33.3 (girls)	
Predominantly Anishinaabe (Ojibwe) ^{xx}	21.3 (boys), 22.5 (girls)	48 (boys), 35 (girls)

- ix. R.P. Troiano et al., "Overweight Prevalence and Trends for Children and Adolescents: The National Health and Nutrition Examination Surveys, 1963 to 1991," *Archives of Pediatrics and Adolescent Medicine*, Vol. 149, No. 10 (1995) p. 1085-91.
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weight youth to engage in health-promoting behaviours and were more likely to perceive their health as poor.²⁵ In Canada, the limited evidence shows body size dissatisfaction in First Nation youth.²⁶

Physiological Concerns

Childhood obesity causes high blood pressure, high levels of fat and insulin in the blood, increased blood clotting, joint problems, gallstones, and breathing problems (apnea) while asleep.²⁷ Factors associated with heart disease have been identified in obese children as young as five years of age.²⁸ Aboriginal children can have poor health when overweight. Among Navajo adolescents, 10 per cent of boys and six per cent of girls were found to have high blood pressure. Overweight children had higher blood pressure.²⁹ For Plains Indian children from Oklahoma, the heaviest children had higher triglyceride (blood fat) levels and poorer cholesterol levels than children who weighed less.³⁰ Obesity is related to type 2 diabetes in First Nations adults.³¹ Because obese children have greater risk than normal weight children to become obese adults, obese children will likely have increased risk of diseases such as type 2 diabetes when they grow older.³² Mohawk children tend to carry their weight around their upper body, which is associated with greater risk of type 2 diabetes among adults.³³ The longer the length of time a person is obese, the more likely they are to get type 2 diabetes. For this reason, obese youth are at risk for developing the disease.³⁴ Until recently, type 2 diabetes was thought to be almost exclusively an adult disease. However, it has dramatically increased among First Nations children as young as four years of age.³⁵ Data from Pima children show risk factors for heart disease and diabetic complications in children with type 2 diabetes.³⁶ Up to 10 per cent of First Nations children with type 2 diabetes develop

kidney disease requiring dialysis.³⁷ Although genetics likely contributes to children getting diabetes, lifestyle factors that lead to obesity are believed to be more relevant.³⁸

LIMITATIONS OF THE KNOWLEDGE ON OBESITY IN FIRST NATIONS CHILDREN

There are several limitations of the knowledge on obesity in Aboriginal children (Table 2). In Canada, there is no national survey data on the body weight of Aboriginal children. Although the First Nations and Inuit Regional Health Survey reported on childhood overweight, these data are based on reports from parents from select First Nations reserves across Canada and Inuit communities in Labrador. It did not include children from Alberta, the territories, or some areas of Quebec (James Bay Cree, Nunavik Inuit and Mohawk communities).³⁹ Knowledge on the rate of overweight and obese children is restricted to a few intensely studied communities. If the results from these communities are typical of the Aboriginal population as a whole, then obesity in Aboriginal youth, as in non-Aboriginal youth, is a great public health concern. Despite reports of obesity in Aboriginal children associated with type 2 diabetes and risk factors for heart disease, there are only a few studies examining the causes of obesity.

There is little, quality data on the dietary and physical activity patterns of Aboriginal children as it relates to body weight despite evidence for obesity at young ages. Information on the social and environmental causes of obesity in children is even more limited. The poor success rate of adult obesity treatment programs points to the need for the development of obesity prevention programs targeted toward Aboriginal children.⁴⁰ Given the limitations of

Table 2: Limitations of the Knowledge on Obesity in Aboriginal Children in Canada

- National surveys of body weight are limited
- Studies of preschool-age children are scarce despite evidence for high body weight in this age group
- Dietary patterns of children are not known
- Physical activity patterns of children are not known
- Social and cultural values towards obesity are not well understood
- Community-level barriers to activity and healthy eating are not well documented
- Maternal contribution (maternal diabetes and overweight) are not well studied
- Early childhood factors that may contribute to overweight, such as bottle-feeding and infant feeding practices, are not well studied

the knowledge on obesity in Aboriginal children, it is not clear what form these interventions should take.

Dietary and Physical Activity Contributions to Obesity

To develop relevant nutrition education interventions for obesity, it is important to describe the diet of a population. However, few studies in Canada exist that describe the diet of Aboriginal children. Analysis of food use is an important aspect of this process because it is more practical in education to focus on specific foods and dietary patterns than on nutrients.⁴¹

The lack of data on physical activity in Aboriginal youth is an important consideration because physical activity has the potential to protect against obesity through maintenance of energy balance. Presently, knowledge of the factors that influence physical activity in Aboriginal children is limited. Confidence in ability to perform a physical activity; beliefs; and social values related to physical activity, involvement in community-based physical activity organizations, access to equipment at home, and parental physical activity have all been associated with, or predictive of, physical activity in children.⁴² Knowing the factors that influence physical activity in obese youth is important for designing effective intervention strategies.⁴³

Maternal and Early Childhood Contributions to Obesity

As documented for the Pima of Arizona and Oklahoma Indians, factors associated with overweight childhood can be related to the mother's obesity and diabetes.⁴⁴ There are an extremely small number of studies in Canada looking at these factors as they relate to child growth. In the James Bay area of Quebec, Cree children who were bottle-fed had greater body weight than breast-fed children. Also, the body weight of the mother during pregnancy is a predictor of the birth weight of the baby.⁴⁵ One study in Canada found that breast-feeding was associated with reduced risk of type 2 diabetes among Aboriginal children.⁴⁶

Community Contributions to Obesity

The environment makes it easy or difficult to adopt healthy behaviours.⁴⁷ However, there is little information about community factors contributing to obesity in Aboriginal populations. If communities in which

Aboriginal children live cause obesity, then understanding, measuring, and altering the environment is critical to reducing the rate of obesity. The environment is not just the physical environment such as the layout of communities, but also the environment of economic and social organization and cultural values. For example, environmental causes of type 2 diabetes in Mi'kmaq communities in Cape Breton have been identified as dependence upon market food and lack of access to traditional food.⁴⁸ Similarly, in Cree communities in northern Quebec, traditional food is recognized as health-promoting, but the lack of access to this food forces many people to consume less-nutritious market food.⁴⁹

Social and Cultural Contributions to Obesity

Not all cultures see obesity as a health problem.⁵⁰ Even if concern about excess weight and awareness of health related risks of being overweight are known by a given culture, there may be little social motivation to support sustained weight loss efforts.⁵¹ Diabetes and obesity research in Aboriginal communities must therefore move beyond examining energy intake and physical activity. It must examine the economic, social, and cultural context of obesity.⁵² An understanding of how a culture thinks about obesity is essential for a better understanding of the impact obesity has on psychosocial concerns and weight control behaviours.⁵³ For example, for the Cree of northern Quebec, obesity may not be seen as a problem.⁵⁴ Similarly, for the Ojibway-Cree in northern Ontario, diabetes is not always seen as a serious health problem and diet and lack of exercise are not always understood to be causes of obesity.⁵⁵ The Ojibway-Cree have been reported to prefer larger body sizes; therefore, individuals in this culture might not be motivated to lose weight. Older people prefer larger body sizes perhaps because of associations between thinness and infectious diseases and tuberculosis.⁵⁶ Adopting obesity prevention practices faces barriers including the belief that fat in food is nourishing and healthy and that carrying extra weight is a sign of health and strength.⁵⁷

OBESITY PREVENTION PROGRAMS ARE REQUIRED IN ABORIGINAL COMMUNITIES

Because eating and physical activity habits are formed in childhood and may be carried into adulthood, prevention programs that encourage increased

physical activity and healthy eating habits targeted towards children need to be developed and tested. Program planners interested in developing obesity prevention programs in Aboriginal communities must better understand the causes of obesity before developing interventions. Effective programs to prevent children from becoming overweight must have respect for, and sensitivity to, language and cultural issues. Program planners must ensure that the program agrees with community culture and values. It is important to identify the local belief systems and language by which people label and interpret health problems before developing interventions. Documentation of the local perspectives of health and obesity will permit use of appropriate language for discussing obesity and its associated health risks and will contribute towards effective health promotion programs. A needs assessment can evaluate the community in terms of its health and nutritional status and its needs with respect to health, nutrition, and physical activity.⁵⁸ To be most effective, interventions must be developed with full participation of the communities. Examples of obesity prevention programs in Canada that follow a participatory model include the Kahnawake Schools Diabetes Prevention Project (KSDPP)⁵⁹ and the Sandy Lake Health and Diabetes Project.⁶⁰ In the United States, participatory obesity prevention programs include Pathways, a multisite obesity-prevention study in American Indian school children living on reservations⁶¹ and the Zuni Diabetes Prevention Program.⁶² Evaluation of the success of these programs to prevent obesity is limited or not yet available.

In Canada, KSDPP was started in 1994 in the Mohawk community of Kawnawake near Montreal. It was the first primary prevention program for type 2 diabetes in a First Nations community in Canada. This elementary school-based program has a strong community health promotion focus. The aim of the intervention has been the development of a health education curriculum for children. It teaches about diabetes and its complications and about healthy eating and healthy food choices. The intervention is reinforced by community activities to encourage healthy food choices and physical activity. Healthy breakfasts are offered at school and a school policy allows children to bring only healthy lunches and snacks to school. At the community level, a community garden was developed and healthy eating promoted at community events, through radio shows, and in articles written in the local paper. Community canteens were persuaded to include healthy food choices and fewer unhealthy

ones.⁶³ An evaluation of the diet of school children four years after the start of KSDPP found that children were not eating healthier.⁶⁴ Children were not asked specifically about how or why they made food choices. However, given the complexity of food choices in the environment, it was felt that the intervention likely did not provide children with enough information to help them in all the choices they make on their own. Evaluation of KSDPP is ongoing.

CONCLUSION

Data from the Canadian Census shows that Aboriginal children represent 5.6 per cent of all children in Canada. Children aged 14 and under represent one-third (33.2 per cent) of the Aboriginal population, far higher than the corresponding share of 19 per cent in the non-Aboriginal population.⁶⁵ The Census counted 315,685 Aboriginal children aged 14 and under in 2001. Based on current research, up to one-third of these children might be at risk for obesity. The illness and disease expected to result from childhood obesity might be devastating unless preventative measures are taken.

Aboriginal communities require childhood obesity prevention interventions that are based on an understanding of the local risk factors for obesity and that have sensitivity to language and cultural issues. The identification of factors that support and reinforce healthy eating and physical activity at multiple levels of influence is crucial. The determinants that are the most relevant and easiest to change should form the basis for interventions. Individual behaviours must be understood within the context of social, cultural, economic, and physical environments that both support and hinder health behaviours. For this reason, interventions need to focus on both individual behaviour change and environmental change. It is the combination of factors acting together that promotes or prevents healthy eating and physical activity, and in turn healthy weight. Given the multiple and interconnected influences on weight, strategies focused at multiple levels are more likely to be effective than strategies focused at a single level. Policy initiatives to help create and sustain supportive environments are essential to make it easier for children and their families to make healthy choices. At the community level, there is the need for policies to ensure the provision of healthy food at a reasonable price and to ensure opportunities for physical activity.

Better information on the rate of obesity in Aboriginal children in Canada is particularly pertinent so

Aboriginal health organizations can respond to community health needs. The ability to establish baseline data and benchmarks will allow communities to monitor and evaluate the effectiveness of programs designed to decrease obesity rates. The situation may be remedied by the recent establishment of a number of institutes, organizations, and initiatives to improve the state of knowledge of the health of Aboriginal Peoples. The Institute of Aboriginal Peoples' Health whose mandate is to address the special health needs of Aboriginal Peoples in Canada was created as part of the Canadian Institutes of Health Research.⁶⁶ The National Aboriginal Health Organization, an Aboriginal-designed and -controlled body created in 2000, works to influence and advance the health and well-being of Aboriginal Peoples through knowledge-based strategies. Both these organizations should support community-based research initiatives to address the issue of obesity rates and its causal factors in Aboriginal children and the development of obesity prevention programs.

ENDNOTES

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Further Reading

BEING ALIVE WELL

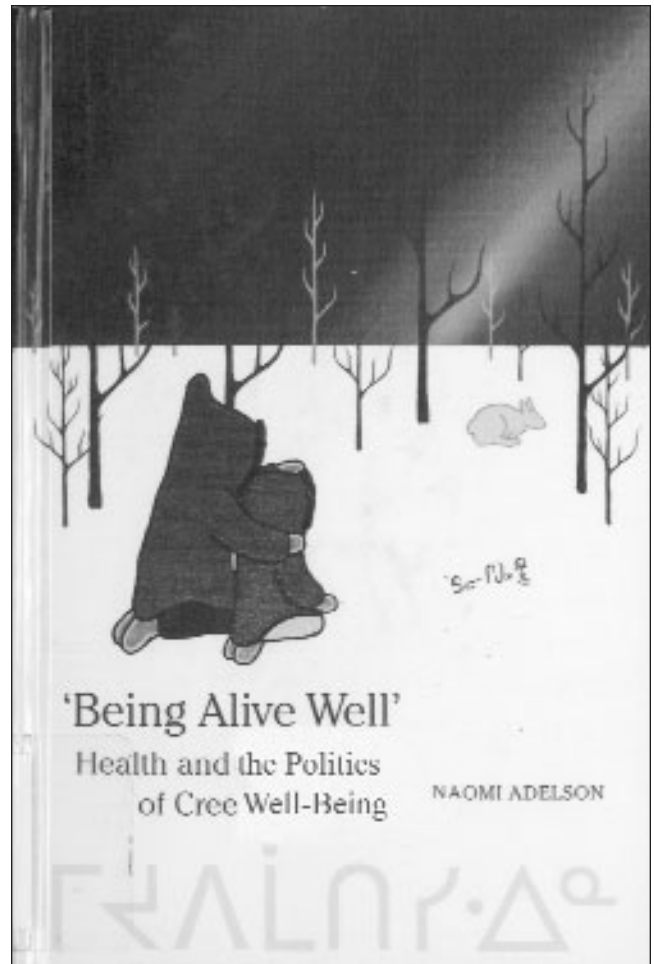
Health and the Politics of Cree Well-Being

By Naomi Adelson
University of Toronto Press, 2000
ISBN 0-8020-8326-9
160 pages

Being Alive Well: Health and the Politics of Cree Well-Being is a critical medical anthropological analysis of health theory in the social sciences with specific reference to the James Bay Cree of northern Quebec. In it, author Naomi Adelson argues that definitions of health are not simply reflections of physiological soundness, but convey broader cultural and political realities.

The book begins with a discussion of the study of health in the social sciences and a call for a broader understanding of the cultural parameters of any definition of health.

Following a chapter that outlines the history of the Whapmagoostui (Great Whale River) region and the people, Adelson presents the underlying symbolic foundations of a Cree concept of health, or *miyupimaatisiun*. For the Cree there is no word that translates into English as health. The most apt phrase is *miyupimaatisiun* or, as the author translate its, being alive well. Being alive well constitutes what one may describe as being healthy; yet it is less determined by bodily functions than by the practices of daily living and by the balance of human relationships intrinsic to Cree lifestyles. Being alive well means that one is able to hunt, to pursue traditional activities, to eat the right foods, and (not surprisingly given the harsh northern winters) to keep warm. This is above all a matter of quality of life. That quality is linked, in turn, to political and social phenomena that are as much a part of the con-



temporary Cree world as are the exigencies of being alive well.

The core of this book is an ethnographic study of the Whapmagoostui Cree and their particular concept of *miyupimaatisiun*. That concept is mediated by history, cultural practices, and the contemporary world of the Cree, including their fundamental concerns about their land and culture. In the contemporary context, health—or more specifically being alive well—for the Cree of Great Whale is an intimate fusion of social, political, and personal well-being, thus linking individual bodies to a larger socio-political reality.

Adelson is associate professor of Anthropology at York University. She has been working with the Whapmagoostui Cree of northern Quebec since 1988.

EDITOR'S NOTE

Book abstracts are printed with permission from the publishing company that produced each book. Abstracts provide further information on some of the resources referenced in the preceding research paper or are generally related to the theme of this issue.

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NAHO's Information Centre on Aboriginal Health

The Information Centre on Aboriginal Health (ICAH) is a virtual library of Aboriginal health information. With thousands of resources, it is the most comprehensive source of web-based information on Aboriginal health in Canada and around the world.

The National Aboriginal Health Organization (NAHO) created ICAH to link individuals and health care professionals to resources they can use to promote and improve health for themselves, their families, and their communities.

ICAH is an innovative pathway for First Nations, Inuit, and Métis people to find relevant resources on health and well-being.

ICAH's English-French-Inuktitut website allows visitors to search four databases (separately or simultaneously) of information on Aboriginal health resources, programs and services for Aboriginal Peoples, careers and training in health and indigenous knowledge, and funding for Aboriginal students.

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The National Aboriginal Health Organization (NAHO),
an Aboriginal-controlled and -designed body,
will influence and advance
the health and well-being
of Aboriginal Peoples through carrying out
knowledge-based strategies.

NAHO's Objects

- To improve and promote health through knowledge-based activities
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 - To facilitate and promote research and develop research partnerships
 - To foster participation of Aboriginal peoples in the delivery of health care
 - To affirm and protect Aboriginal traditional healing practices
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