

Alcohol drinking habits and community perspectives on alcohol abuse in the Bella Coola Valley

Harvey V. Thommasen, MD, MSc, FCFP

Associate Clinical Professor, Faculty of Medicine, University of British Columbia, Vancouver, BC

Neil Hanlon, BA, MA, PhD

Assistant Professor, Geography Program, University of Northern British Columbia,Prince George, BC

Carol Thommasen, BScN

Nursing Program Officer, University of Northern British Columbia, Prince George, BC

William Zhang, MSc, MA

Statistical Consultant, University of Northern British Columbia, Prince George, BC

Correspondence to: Dr. Harvey V. Thommasen, 4202 Davie Ave., Prince George BC V2M 4G7

This article has been peer reviewed.

Introduction: This study surveyed the residents of the rural and remote communities in the Bella Coola Valley, British Columbia, on their alcohol drinking habits and on their opinions as to which of a list of health issues were the most important considerations for the well-being of the community.
Methods: People aged 17 years and older living in the Bella Coola Valley were asked to complete a detailed Health and Quality of Life Survey during the period August 2001 to May 2002. This included two separate mailouts. Alcohol drinking habits; and ratings on whether or not people believed that alcohol abuse, drug abuse, family violence, unemployment, sexual abuse and racial discrimination were surveyed.
Results: A total of 674 adults age 17 years and older (39% response rate) completed an 11-page questionnaire. Results from the survey indicate that unemployment, alcohol abuse and drug abuse are seen as the most important community health problems by the majority of residents. Eighty-eight percent of respondents agree or strongly agree that unemployment is a problem; for alcohol abuse it was 83%, for drug abuse 77%, for both family violence and sexual abuse 58%, and for racial discrimination it was 53%. Patterns of drinking habits vary considerably between Aboriginal peoples and non-Aboriginal people. More Aboriginal respondents abstained from drinking alcoholic beverages (54%) than non-Aboriginal respondents (22%). Among the Aboriginal peoples who did drink alcohol, there were relatively more heavy drinkers (36%) compared with non-Aboriginal people (7%). There were more heavy drinkers among men than among women.
Conclusion: Patterns of drinking habits vary between men and women and between Aboriginal and non-Aboriginal people. The majority of residents agree that alcohol is a problem in these communities. Unemployment, drug abuse, family violence, sexual abuse and racial discrimination are also believed to be important issues for the Bella Coola Valley. This information should be used to set priorities for future health and wellness programs.

Introduction : Au cours de cette étude, les chercheurs ont sondé les résidents des communautés rurales et éloignées de la vallée de Bella Coola, en Colombie-Britannique, au sujet de leurs habitudes de consommation d'alcool et leur ont demandé de préciser, parmi une liste de problèmes de santé, ceux qui constituaient les facteurs les plus importants pour le mieux-être de la communauté.
Méthodes : On a envoyé par la poste, en deux envois distincts, un questionnaire sur la santé et la qualité de vie à toutes les personnes de 17 ans et plus habitant la vallée de Bella Coola, entre août 2001 et mai 2002. Les questions portaient sur les habitudes de consommation d'alcool et l'évaluation des répondants quant à savoir s'ils croyaient importants les problèmes d'abus de l'alcool ou des drogues, la violence familiale, le chômage, la violence sexuelle et la discrimination raciale.
Résultats : Au total, 674 adultes âgés de 17 ans et plus (taux de réponse de 39 %) ont rempli un questionnaire de 11 pages. Les résultats de l'enquête indiquent que la majorité des résidents considèrent le chômage, l'abus de l'alcool et des drogues comme les problèmes de santé communautaires les plus importants. Quatre-vingt-huit pour

© 2006 Society of Rural Physicians of Canada

cent des répondants sont d'accord ou fortement d'accord pour dire que le chômage est un problème. Le taux s'établit à 83 % dans le cas de l'abus de l'alcool, à 77 % dans celui de l'abus des drogues, à 58 % dans celui de la violence familiale et sexuelle et à 53 % dans celui de la discrimination raciale. Les tendances des habitudes de consommation d'alcool varient considérablement entre Autochtones et non-Autochtones. Plus de répondants autochtones (54 %) que non-Autochtones (22 %) évitaient l'alcool. Parmi les Autochtones qui consommaient de l'alcool, il y avait relativement plus de gros consommateurs (36 %) que chez les non-Autochtones (7 %). Les gros consommateurs étaient plus nombreux chez les hommes que chez les femmes.

Conclusion : Les tendances des habitudes de consommation d'alcool varient entre les hommes et les femmes et entre Autochtones et non-Autochtones. La majorité des résidents reconnaissent que l'alcool pose un problème dans ces communautés. On croit aussi que le chômage, l'abus des drogues, la violence familiale et sexuelle et la discrimination raciale sont des problèmes importants pour la vallée de Bella Coola. Il faudrait utiliser ces renseignements pour établir les priorités de futurs programmes de santé et de mieux-être.

Introduction

Bella Coola Valley is situated in the central coast region of British Columbia (Fig. 1). The 2001 Census indicated that 2289 people live in the various communities of the Bella Coola Valley, and 46% of these residents are of Aboriginal descent.[1,2] The vast majority of the Aboriginal peoples living in the Bella Coola Valley (>95%) are Status Indians. Bella Coola Valley is part of the traditional territory of the Nuxalk Nation, a tribe of Salish-speaking Coastal Indians.[3–6] A recent review of causes of death for residents of the Bella Coola Valley indicates alcohol abuse is a problem.[7,8] Between 1993 and 2001, deaths from alcohol-related diseases were statistically greater than one would predict based on the valley's population.[2] For example, the crude alcohol-related death rate for Bella Coola Valley (1993–2001) was approximately 7.8 per 1000 population compared with 4.0 per 1000 for the province of BC. Standardized mortality ratio (SMR) is the ratio of the number of deaths occurring in residents of a geographic area to the expected number of deaths in that area based on provincial age-specific mortality rates. Between 1993 and 2001 the SMR has varied from 2.1 to 3.2. Compared with the BC population, alcohol-related SMR for Status Indians living in the Bella Coola Health Region between 1987 and 1996 was 4.8; and for people who are not Status Indians the SMR was 2.2.

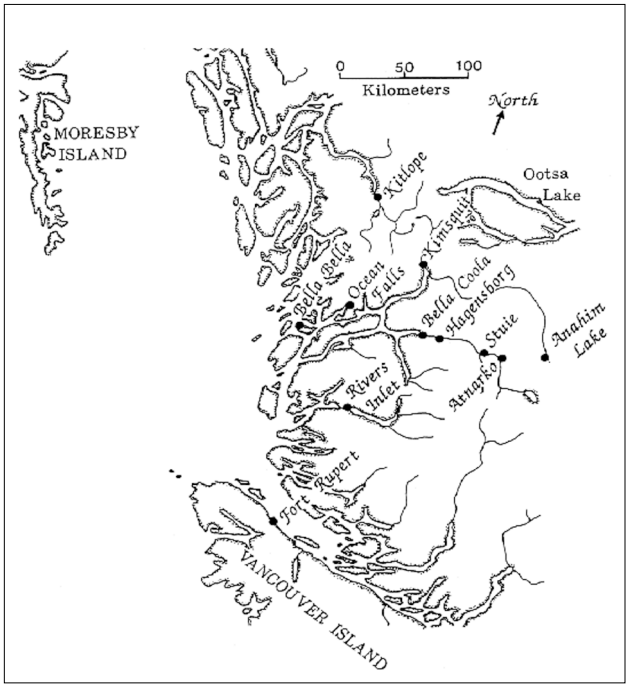


Fig. 1. Detailed map of the Bella Coola Valley.

The research questions we attempted to answer in this study include:

1. Do Bella Coola Valley residents believe there is an alcohol abuse problem in their communities?
2. What are the alcohol drinking habits of adult residents of the Bella Coola Valley?
3. Are there differences in alcohol drinking habits with respect to sex, ethnicity and age?

Methods

This research project followed the recommendations outlined in "A Guide for Health Professionals Working with Aboriginal Peoples"[9–11] and was carried out in a participatory fashion: there was consultation with the Nuxalk Band Council, community members and local health care providers with

regard to our plans to study determinants of health and disease of people living in the Bella Coola Valley. Prior to collecting data we obtained letters of support from the Nuxalk Band Council, the Bella Coola Transitional Health Authority and the Central Coast Regional District. Ethics approval was obtained from Research Ethics Committees located at the University of Northern British Columbia.

People aged 17 years and older living in the Bella Coola Valley were asked to complete a detailed Health and Quality of Life Survey during the period August 2001 to May 2002. This included two separate mailouts. All recipients were asked to read an informed consent form or were read an informed consent form prior to completion of the 11-page questionnaire. Details of this survey methodology are reported elsewhere.[12]

Eleven questions in this survey form the basis for this research paper. The first 3 questions are demographic: age (yr), sex and ethnicity (Aboriginal, other). There were 6 questions pertaining to community health issues: 1) alcohol abuse, 2) drug abuse, 3) family violence, 4) unemployment, 5) sexual abuse and 6) racial discrimination. Respondents were asked to circle a number that best indicated their level of agreement or disagreement that the health issue mentioned was a problem in the Bella Coola Valley. Agreement was rated on a 5-point Likert scale, ranging from strongly disagree (score of 1) to undecided (3) to strongly agree (5).

The last 2 questions had to do with alcohol drinking behaviour. The word "drink" in this survey was defined as: 1) one bottle/can of beer or a glass of draft; 2) one glass of wine or a wine cooler; or 3) one straight or mixed drink with 1½ oz of hard liquor. The first question on alcohol drinking behaviour was: "During the past 12 months, how often did you drink alcoholic beverages?" There were 8 choices: never (0), less than once a month (1), once a month (2), 2–3 times a month (3), once a week (4), 2–3 times a week (5), 4–6 times a week (6) and every day (7). The second question was: "On average, how many drinks do you usually have in one sitting?" There were 3 choices: 1) 1–2 drinks, 2) 3–4 drinks, and 3) 5 or more drinks.

Returned survey answers were entered into an Excel spreadsheet, from which results were summarized and graphs made.[13] The data were analyzed using the software SPSS for Windows. Pearson chi-squared (Asymp. Sig. [2-sided]) statistics were used to see if there were statistically significant differences between the various study groups.[14]

Results

Response to the survey was 39% (674/1734). Relatively more women (57% v. 49%), non-Aboriginal (63% v. 57%) and older people (mean age: 48.9 v. 43.5 yr) answered the survey.

Respondents agreed or strongly agreed that unemployment (88%), alcohol abuse (83%), drug abuse (77%), family violence (58%), sexual abuse (58%) and racial discrimination (53%) were problem issues in the valley (Table 1).

There were no significant differences between the sexes in the rating of unemployment and racial discrimination as problems (Table 2). For all other issues, men consistently gave lower scores (i.e., they perceived the issue as less of a problem) than did the women.

There were significant differences between how Aboriginal and non-Aboriginal people perceived every one of the community health issues (Table 3). Although some of the overall means were similar between the populations, proportionately more Aboriginal peoples agreed strongly that all of the health issues named were important problems for the Bella Coola Valley.

Thirty-three percent of the respondents stated that they never drink alcohol (Table 4). Five percent stated that they drink alcohol every day, men

Table 1. Bella Coola Valley Health and Quality of Life Survey response summary

Problem issue considered	No. of respondents	Response, % of respondents				
		Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Unemployment	657	4	3	5	24	64
Alcohol abuse	654	6	4	8	32	51
Drug abuse	650	6	4	13	35	42
Family violence	645	7	7	28	33	25
Sexual abuse	643	7	5	29	32	26
Racial discrimination	641	8	16	23	32	21

drink alcohol more often than do women ($p < 0.001$) and Aboriginal peoples drink alcohol less frequently than non-Aboriginal people ($p < 0.001$). Older people (>24 years old) abstain more frequently, and few young people (<25 yr) drink more than twice a week ($p < 0.001$).

With respect to number of drinks at a sitting, the majority of respondents have 1–2 drinks (Table 5). Men tend to drink more than women ($p < 0.001$), and Aboriginal peoples who do drink tend to consume a greater number of drinks at one sitting than do non-Aboriginal people ($p < 0.001$). Young people tend to drink 5 or more drinks (i.e., binge drinking) more often than do older people ($p < 0.001$).

Table 2. Responses to community health issues, by sex of the respondent

Variable	Mean (and SD)* Male	Female	*p* value
No. of respondents per issue, range	273–278	368–379	
Problem issue			
Alcohol abuse	4.1 (1.1)	4.3 (1.1)	<0.001
Drug abuse	3.9 (1.2)	4.1 (1.1)	0.003
Family violence	3.5 (1.1)	3.7 (1.1)	≤0.001
Unemployment	4.3 (1.0)	4.45 (1.0)	0.419
Sexual abuse	3.4 (1.1)	3.8 (1.1)	<0.001
Racial discrimination	3.4 (1.2)	3.4 (1.2)	0.931

*Unless otherwise indicated.

Table 3. Comparison of Aboriginal and non-Aboriginal responses

Variable	Mean (and SD)* Aboriginal	Non-Aboriginal	*p* value
No. of respondents per issue, range	243–245	399–413	
Problem issue			
Alcohol abuse	4.3 (1.1)	4.1 (1.1)	<0.001
Drug abuse	4.2 (1.2)	3.9 (1.1)	<0.001
Family violence	3.6 (1.2)	3.6 (1.1)	<0.001
Unemployment	4.5 (1.0)	4.4 (1.0)	<0.001
Sexual abuse	3.7 (1.3)	3.6 (1.1)	≤0.001
Racial discrimination	3.5 (1.3)	3.4 (1.1)	<0.001

*Unless otherwise indicated.

Table 4. Alcohol drinking habits* of Bella Coola Valley residents who responded to the survey, by sex, ethnicity and age

A. Sex and ethnicity

"During the past 12 months, how often did you drink alcoholic beverages?"	% of respondents, by sex and ethnicity Total (*n* = 658)	Male (*n* = 277)	Female (*n* = 381)	Aboriginal (*n* = 242)	Non-Aboriginal (*n* = 416)
Never	33	32	34	53	22
Less than once a month	17	9	23	12	20
Once a month	5	5	5	5	5
2–3 times a month	13	14	13	12	14
Once a week	6	6	6	5	7
2–3 times a week	13	14	11	10	14
4–6 times a week	7	10	5	1	11
Every day	5	10	2	2	7

B. Age

"During the past 12 months, how often did you drink alcoholic beverages?"	% of respondents, by age group (yr) Total (*n* = 658)	17–24 (*n* = 47)	25–44 (*n* = 234)	45–64 (*n* = 259)	≥65 (*n* = 118)
Never	33	17	26	34	53
Less than once a month	17	32	15	19	12
Once a month	5	4	6	5	3
2–3 times a month	13	26	18	9	8
Once a week	6	4	9	6	1
2–3 times a week	13	17	17	10	8
4–6 times a week	7	0	6	10	6
Every day	5	0	3	7	8

*The word "drink" in this survey was defined as: 1) one bottle/can of beer or a glass of draft; 2) one glass of wine or a wine cooler; or 3) one straight or mixed drink with 11/2 oz of hard liquor.

Discussion

Alcohol-related problems are an important cause of death for people living in the Bella Coola Valley — occurring at rates 2–5 times the predicted rates.[7,8] It is assumed that the delivery of health programs dealing with issues such as alcohol abuse will be most successful if the program is delivered to a community in which the majority of people believe the issue is actually a problem. The majority of Bella Coola survey respondents (83%) do agree that alcohol abuse is an important health issue. The majority also agree that drug abuse (77%), family violence (58%), sexual abuse (58%) and racial discrimination (53%) are important health issues for the valley. The information presented in this paper should assist health care planners with setting priorities for health and wellness programs.

The greatest number of people agreed with the statement that unemployment is a problem in the valley. According to the Provincial Medical Health Officer, socioeconomic status is an important health indicator because meaningful work with sufficient income contributes to a healthy life.[15] Employment rate is defined as the percent of the labour force aged 15 years and over who were employed in the week before census day. "Unemployed" is defined as persons who in the reference week were without paid or self-employed work *and* were available to work *and* had either looked for work in the past 4 weeks, were temporarily laid off or had definite arrangements to start a job in the next 4 weeks. The ***unemployment rate*** is calculated from the employment rate by subtracting the employment rate percentage from 100. The employment rate for the Bella Coola Valley Local Health Area in 2001 was 82.7%, which is significantly lower than the provincial rate of 91.5%. Sub-population analysis reveals that the younger people, especially young males, have the lowest employment rates. Such data help explain why more Aboriginal residents of the valley strongly agreed with the statement that unemployment is a problem (71%) than did the non-Aboriginal residents (60%); and it possibly explains why more Aboriginal residents strongly agreed that racial discrimination is a problem (31%) than did the non-Aboriginal residents (16%).

Aboriginal peoples in BC, across Canada and across North America, also have more health problems per capita — both physical and psychosocial — than do non-Aboriginal people. Look at mortality rates for example: the BC infant death rate for Aboriginal peoples is over twice that for all of Canada; the death rate from injury and poisonings is 4 times the Canadian average; the suicide rate among 15–19-year-old Aboriginal youth is 6 times the Canadian rate; and death from diabetes is 6 times the Canadian average.[9,16,17] These statistics would lead one to predict that more Aboriginal peoples would agree that alcohol abuse, drug abuse, family violence and sexual abuse are problems compared with other people living in the Bella Coola Valley, which is exactly what the data show.

Comparing results from the 1991 Aboriginal

Table 5. Number of alcoholic drinks* at one sitting, of Bella Coola Valley residents who responded to the survey, by sex, ethnicity and age

A. Sex and ethnicity

"On average, how many drinks do you usually have in one sitting?"	% of respondents, by sex and ethnicity				
	Total (*n* = 442)	Male (*n* = 190)	Female (*n* = 252)	Aboriginal (*n* = 118)	Non-Aboriginal (*n* = 324)
1–2	63	54	71	35	75
3–4	21	23	19	29	18
5 or more	16	23	10	36	7

B. Age

"On average, how many drinks do you usually have in one sitting?"	% of respondents, by age group (yr)				
	Total (*n* = 442)	17–24 (*n* = 39)	25–44 (*n* = 176)	45–64 (*n* = 172)	≥65 (*n* = 55)
1–2	64	38	56	71	85
3–4	21	26	25	19	11
5 or more	15	36	19	10	4

*The word "drink" in this survey was defined as: 1) one bottle/can of beer or a glass of draft; 2) one glass of wine or a wine cooler; or 3) one straight or mixed drink with 11/2 oz of hard liquor.

Peoples Survey[18] to those of the 2001 Bella Coola Survey (Table 6) reveals that proportionately more Bella Coola Aboriginal survey respondents agreed that alcohol abuse, drug abuse, family violence, unemployment and sexual abuse were problems. The significance of the differences remains to be determined.

Drinking frequency survey data are available for Prince George, BC,[12] and from the 2000–2001 Canadian Community Health Survey (Fig. 2).[19] Compared with Prince George and the Canadian community survey populations, the Bella Coola Valley population had a much higher proportion of abstainers. Aboriginal peoples were more likely to abstain from drinking alcohol (53%) than non-Aboriginal people (22%) — which is contrary to stereotypical thinking about the drinking habits of Aboriginal peoples, but consistent with other survey results.[20]

Table 6. Comparison of responses by Aboriginal peoples to 2001 Bella Coola Valley survey with responses from the 1991 national Aboriginal Peoples Survey

	% of respondents who believe that each issue is a problem in their community	
Community health issue	Bella Coola Valley survey	1991 survey
Alcohol abuse	84	61
Drug abuse	80	48
Family violence	58	39
Unemployment	87	67
Sexual abuse	59	25

The National Population Health Survey (NPHS), a longitundal survey done every two years, defines heavy drinkers as those who report drinking 5 or more drinks per occasion, 12 or more times per year.[21] According to the 1998–99 NPHS, 20% of their BC survey population and 20% of their Canadian survey population were heavy drinkers.[21] In the Bella Coola Valley survey the overall percentage of current drinkers who are heavy drinkers was 13%. Within the various Bella Coola Valley drinking sub-populations, the heavy drinking rates range from a high of 36% in the Aboriginal population to a low of 7% in the non-Aboriginal population. Although there is very little Canadian research on Aboriginal heavy drinking rates, the 36% rate reported for the Bella Coola population is consistent with numbers reported for US Aboriginal populations.[22]

The 17–24-year-old group had the greatest proportion of people drinking 5 or more drinks at a sitting. Studies have shown that alcohol intoxication is associated with physical aggression, fatal accidents, motor vehicle collisions, falling or drowning acci-

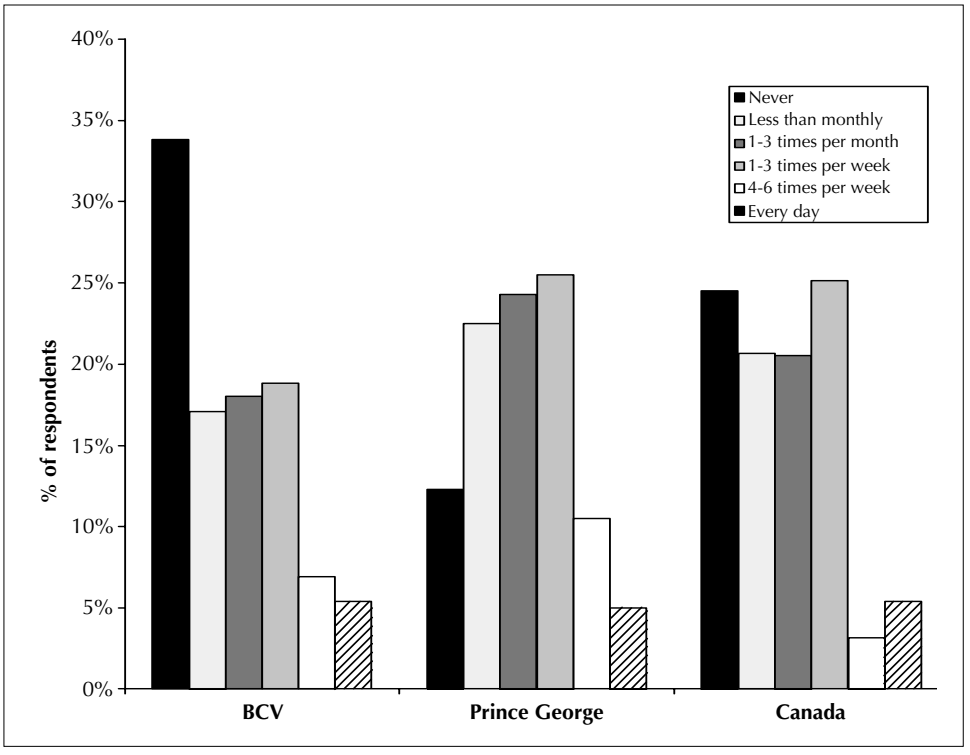


Fig. 2. Comparison of the frequency of drinking in the past 12 months for the present study (i.e., Bella Coola Valley [BCV]), for Prince George, BC,[12] and for Canada. Statistics for Canada taken from the 2000–2001 Canadian Community Health Survey.[19]

dents, depression and suicide.[23–25] We recommend that health care professionals in the Bella Coola Valley target this age group as part of a culturally appropriate primary prevention program designed to increase awareness of the negative impacts of binge drinking.[26]

Limitations

There are some limitations in this study. First, not every adult living in the valley completed the health survey. Even so, a 39% response rate for this sort of survey is very good; the usual response rate is less than 10%. The often-quoted 1997 First Nations and Inuit Regional Health Survey, for example, had a 6% adult First Nations response rate in BC and a 5% adult First Nations response rate for all participating regions. In the 1991 Aboriginal Peoples Survey approximately 6% of the Canadian Aboriginal population was surveyed.[27]

Conclusion

Patterns of drinking habits vary between men and women and between Aboriginal and non-Aboriginal people. There are more heavy drinkers among men than among women. More Aboriginal respondents abstained from drinking alcoholic beverages (54%) than non-Aboriginal respondents (22%). Among the Aboriginal peoples who do drink alcohol, there are relatively more heavy drinkers compared with non-Aboriginal people. Rating of health issues by residents of this rural and remote community reveals unemployment, alcohol abuse, drug abuse, family violence, sexual abuse and racial discrimination are all important issues. This information can be used to set priorities for future health and wellness programs.

Acknowledgements: The Rural Remote Health Institute at the University of Northern British Columbia contributed financial assistance to this project. Dr. Thommasen would like to acknowledge the Community-Based Clinician–Investigator Program for providing financial support.

Competing interests: None declared.

References

1. British Columbia Vital Statistics Agency. *P.E.O.P.L.E. 27, BC Stats*. Victoria (BC): Govt of British Columbia; 2003.
2. British Columbia Vital Statistics Agency. *2001 British Columbia census*. Victoria (BC): Govt of British Columbia; 2003.
3. Thommasen HV, Newbery P, Watt WD. Medical history of Central Coast of British Columbia. *B C Med J* 1999;41:464-70.
4. Kennedy DID, Bouchard RT. Bella Coola Indians. In: Suttles W, editor. *Handbook of North American Indians*. Washington: Smithsonian Institute; 1990. p. 323-39.
5. McIlwraith TF. *The Bella Coola Indians*. Toronto (ON): University of Toronto Press; 1992.
6. Thommasen HV. Prehistoric medicine on BC's Central Coast. *B C Med J* 1999;41:343-6.
7. Thommasen HV, Thommasen CT, Martiquet P, Jin A. Causes of death among Status Indian and other people living in the Bella Coola Valley Local Health Area (1987–2001). *B C Med J* 2004;46: 179-87.
8. Health Data Warehouse, Ministry of Health Planning BC. *Death-related statistics by selected causes of death: five-year period*. [Health data submitted by BC Vital Statistics Agency, BC Ministry of Health Services. Population data provided by BC STATS.] BC Ministry of Management Services. July 6, 2003.
9. Smylie J; for the Aboriginal Health Issues Committee. A guide for health professionals working with Aboriginal peoples: health issues affecting Aboriginal peoples. *J Soc Obstet Gynaecol Can* 2001;100: 54-68.
10. Macaulay AC, Gibson N, Freeman W, Commanda L, McCabe M, Robbins C, et al. Participatory research maximizes community and lay involvement. *BMJ* 1999;319:774-8.
11. Cave AJ, Ramsden VR. Hypothesis: the research page. Participatory action research. *Can Fam Physician* 2002;48:1671-2.
12. Michalos AC, Thommasen HV, Anderson N, Zumbo BD. Determinants of health and the quality of life in the Bella Coola Valley. *Soc Indic Res* 2005;72:1-50.
13. Harvey G. *Excel for Dummies*. 2nd ed. Foster City (CA): IDG Books; 1994. p. 366.
14. Snedecor GW, Cochran WG. *Statistical methods*. 7th ed. Ames (IA): Iowa State University Press; 1980.
15. British Columbia Provincial Health Officer. *A report on the health of British Columbians: Provincial Health Officer's Annual Report 2001. Feature report: The health and well-being of Aboriginal people in British Columbia*. Victoria (BC): Ministry of Health and Ministry Responsible for Seniors; 2002.
16. Foster LT, Macdonald J, Tuk TA, Uh SH, Talbot D. Native health in British Columbia: a vital statistics perspective. In: Stephenson PH, Elliott SJ, Foster LT, Harris J, editors. *A persistent spirit: towards understanding Aboriginal health in British Columbia*. Canadian Western Geographical Series, vol 31. Victoria (BC): Western Geographical Press; 1995. p. 43-94.
17. MacMillan HL, MacMillan AB, Offord DR, Dingle JL. Aboriginal health. *CMAJ* 1996;155:1569-78.
18. Statistics Canada. Language, tradition, health, lifestyle and social issues: 1991 Aboriginal peoples survey. Cat no. 11-001E. *The Daily* 1993; June 29:1-6.
19. *Canadian Community Health Survey: a first look, 2000/01*. (Ottawa): Statistics Canada. Available: www.statcan.ca/Daily/English/020508 /d020508a.htm (accessed 2005 Sept 13).
20. Wood DS. Inuit and non-Inuit alcohol consumption in the Baffin region, NWT, Canada. *Int J Circumpolar Health* 1999;58:24-9.
21. *National Population Health Survey (NPHS), 1998–99*. Ottawa: Statistics Canada.
22. Baker R, Morton M, Fraser G. Cultural aspects of alcoholism. *Can J CME* 1994;May:19-25.
23. Skog OJ. Alcohol consumption and fatal accidents in Canada. *Addiction* 2003;98:883-93.
24. Wells S, Graham K, West P. Alcohol-related aggression in the general population. *J Stud Alcohol* 2000;61:626-32.
25. Wang J, Patten SB. Alcohol consumption and major depression: findings from a follow-up study. *Can J Psychiatry* 2001;46:632-8.
26. Botvin GJ, Griffin KW, Diaz T, Ifill-Williams M. Preventing binge drinking during early adolescence: one- and two-year follow-up of a school-based preventive intervention. *Psychol Addict Behav* 2001;15 (4):360-5.
27. Bobet E. *Diabetes among First Nations People*. cat no H34-88/1998E. Ottawa: Health Canada; 1998. p. 31.