

Ivaag - the Greenland Inuit child cohort

a preliminary report

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Contents

	Side
1. Introduction	5
2. Data collection	7
3. Interview and questionnaire	11
Socioeconomic background	12
Age	12
Marital status	12
Education	13
Employment and working conditions	14
Housing conditions	15
Health	16
Self-rated health	16
Activity restriction	17
Symptoms	17
Lifestyle	18
Diet	18
Physical activity	19
Smoking	19
Alcohol	20
Marihuana	22
Pregnancies	22
Breast-feeding	23
4. Birth registration	25
Birthweight and -length	25
5. Analyses of biological samples	27
6. The Greenland – Nunavik Study	31
7. Publications and follow-up of the cohort	33
8. Conclusion	35

Appendix 1. Questionnaires
 Appendix 2. Laboratory procedures

1. Introduction

The Greenland Child Cohort Project IVAAQ was originally inspired by a child cohort study that took place in Denmark during 1996-2002. However, the logistic and financial challenges resulted in a very much smaller cohort in Greenland (approx. 400 participants) than in Denmark (approx. 100,000 participants) and a less comprehensive set of indicators. For a number of reasons, the IVAAQ study has a strong focus on exposure for contaminants but information about social exposures and lifestyle such as diet, physical activity, smoking and alcohol are also part of the study.

The aim of the study is to collect information about pregnant women and their newborn children in order to study the effects of selected exposures on pregnancy outcome and child development. The present data covers the pregnant women and the children up to an age of 6-12 months. Later follow-up will be considered in due course.

A large part of the survey instruments have been used in other population surveys and the results for the pregnant women can therefore be compared with results for 1115 women aged 18-39 collected in Greenland during 1999-2007.

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2. Data collection

All pregnant women who were ethnic Greenlanders (Inuit) living in three selected towns (Nuuk, Maniitsoq, Ilulissat) were eligible for participation. Each woman was allowed to enter the study in relation to one pregnancy only. Mothers who gave birth to twins were subsequently excluded. Mothers who moved out of the study areas were excluded from the follow-up examinations after birth. The number of participants recruited for the study was 403 out of a total of 1194 registered births in the selected towns during the study period. The estimated number of second or subsequent pregnancies during the study period was 203 leaving a total of 991 eligible pregnant women.

The participants were recruited by referral from the health care clinics, and based on a list of pregnant women provided to the investigators by the midwives. Due to a number of constraints including shortage of staff, vacation periods, competing projects, lack of interest from the health care staff and poor communication, only 668 pregnant women were asked to participate in the study. Of these, 262 chose not to participate. The participation rate was 406/668 (61%). Of the remaining 406 women, 3 gave birth to twins and were subsequently excluded. Table 1 summarizes the recruitment of participants.

Table 1.

	Included	Excluded
Registered births	1194	
Estimated second or subsequent births to mothers already included in the study		203
Eligible pregnancies	991	
Not contacted		323
Invited to participate	668	
Declined		262
Accepted	406	
Twin births		3
Participants	403	
Lost to follow-up		79
Participants in second interview	324	
Place of recruitment		
Nuuk	311	
Maniitsoq	17	
Ilulissat	75	

Only 324 mothers participated in the second interview 6 months after births. Of the 79 mother-child pairs lost to follow-up, 3 were stillbirths or died in infancy, 33 mothers had moved out of the study area, 10 withdrew from the study and 36 were lost to follow-up for other and unknown reasons.

Data was collected by a registered midwife who had been trained in the survey instruments. She was fully bilingual (Greenlandic and Danish) and interviews were carried out in the lan-

guage chosen by the participant. The questionnaires included translations of internationally used questions and scales, questions used in previous surveys in Greenland, and questions developed specifically for this study. Questions that had not been used in the Greenlandic language before were translated from Danish to Greenlandic separately by at least two interpreters and back translated by another independent interpreter. The original and the back-translated version in Danish were compared and discrepancies were discussed among the interpreters and the principal investigators.

Data was coded, double entered and validated in Epi-data and subsequently translated into SAS. Analyses were performed in SAS version 9.x and SPSS version 15.0. Metals and POPs were analysed in Québec, Canada, at the Centre de Toxicologie du Québec (see appendix 1 for details).

The study can a posteriori be divided into three parts. For part I, 48 participants were recruited during 1999-2000. Part II comprised 118 participants recruited during 2000-2002; these participants were also part of a combined Canadian-Greenlandic study of the effects of POPs on child neuropsychological development during the first year of life, and the dataset includes a large number of variables that are not described in this short report. Part III was a continuation of the Greenland Child Cohort in order to reach a reasonable number of participants; information was collected on 237 participants during 2002-2005. The information was a subset of that collected in part II. Parts I and II took place only in Nuuk while participants for part III were also recruited from Ilulissat and Maniitsoq (Figure 1). Table 2 summarizes the data collection for the three parts of the study.

The study design was changed after part I. In particular, the questions on alcohol were more elaborate in parts II and III and the biological sampling was extended to include also cord blood and milk samples, but the basic questions and laboratory measurements are comparable among all three study parts.

The study is representative of Inuit women living in towns on the central west coast of Greenland from Nuuk to Disko Bay. Nuuk is, however, over represented. While the participants from Nuuk made up 18% of the total number of births in Nuuk during 1999-2005, the participants from towns outside Nuuk made up only 14%. It is accordingly necessary to geographically weight the data in order to obtain a regional estimate.

Figure 1. Sampling areas in Greenland.



Table 2. Overview of data collection for IVAAQ study. Shaded items were not part of the IVAAQ core study.

	Part I	Part II	Part III
Year of data collection	1999-2000	2000-2002	2002-2005
No. of participants	48	118	237
Towns included	Nuuk	Nuuk	Nuuk, Maniitsoq, Ilulissat
I. Prenatal visit	Interview Self administered questionnaire Biological sampling (maternal blood, hair)	Interview Self administered questionnaire Biological sampling (maternal blood, hair) Raven's Progressive Matrices	Interview Self administered questionnaire Biological sampling (maternal blood, hair)
II. Postnatal visit		Interview Anthropometry	
III. 6 month visit	Interview Self administered questionnaire	Interview Self administered questionnaire Physical examination for Yushi's signs Fagan test Teller Visual Acuity Test Anthropometry	Interview Self administered questionnaire
IV. 12 month visit		Interview Home inventory Conflicts Tactile Scale Fagan test Teller Visual Acuity Test A-not-B 12 test Baily Scales 2nd ed. Anthropometry	
Other information	Birth registration	Birth registration Cord blood Milk	Birth registration Cord blood Milk

3. Questionnaire data

Information regarding the participants' background, health and lifestyle was attained through interviews, based on structured questionnaires filled in by a bilingual (Greenlandic/Danish) interviewer. All participants were interviewed during pregnancy, approximately in the 26th week, and again about 6 months after giving birth.

The prenatal questionnaire included questions about sociocultural background, self-reported health and diseases, and lifestyle factors such as diet, physical activity, alcohol consumption and smoking. Furthermore the prenatal questionnaire comprised questions regarding the current and previous pregnancies.

The questionnaire used at the interview 6 months after the participant gave birth included a few questions regarding sociocultural background, but mainly focused on aspects relating to the child: Breast feeding and diet, which diseases the child had suffered from and specific skills of the child. The questionnaire also examined the participants' own health and lifestyle since giving birth, by including questions on illness, physical activity, diet, alcohol consumption and smoking.

Information on more sensitive issues such as sexual life, violence, sexual assaults and suicide attempts was obtained through two identical self-administered questionnaires given to the participants at each of the two interviews to be answered in private. The self-administered questionnaire included the 12-question version of Goldberg's General Health Questionnaire Scale, a scale consisting of 12 questions on general psychological well being.

The tables in this chapter are based on 400 of the 403 participants in the study, because 3 questionnaires were received late. However the number of participants varies from table to table since 400 participants took part in the prenatal interview, 343 completed the prenatal self-administered questionnaire, 324 participated in the interview approx. six months after giving birth and 216 participants filled in the self-administered questionnaire given to them at this last interview.

Due to changes in the questionnaires during the study, not all participants were asked all the questions. Therefore some tables are only based on a subset of the total study population.

Socio-economic background

Age

The age of the participants ranged from 16 to 46 years, with a mean age of 27.4 years (figure 3.1).

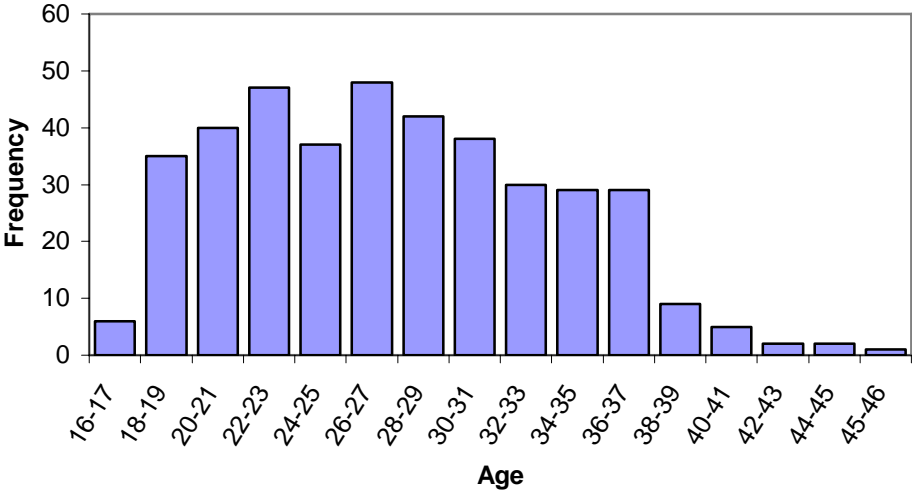


Figure 3.1. Age distribution of the mothers.

Marital status

Information on marital status was obtained by combining two questions; one regarding the participant’s legal status (single (=never married); married; separated; divorced; widowed) and the other, whether or not the participant reported living with a partner. Table 3.1 shows the distribution of the participants by marital status. The majority of the participants were in a relationship, whereas a little over 10% were single.

Table 3.1. Marital status (N=400; Missing 2)*

	Number	Pct.
Living with partner, unmarried	253	63.6
Married	103	25.9
Single	42	10.6
Total	398	100.0

* N in table heading indicates the study base – N minus missing is the actual number of participants who answered the question. Missing participants are not included in the tables.

In the interview six months after the child was born, the participants’ marital status was assessed again to examine whether they were living with the child’s biological father. 93% of the participants indicated to be living with the father of the child, while 5% were single and 1% was living with a new partner.

Education

The educational level of the participants was examined through questions on how many years of primary schooling they had completed and whether they had completed high school (general school education). The participants were also asked whether they had completed an education (yes; no) and if yes, which education. The latter was coded according to the length of the education. Participants in the second and third part of the study were asked the same questions concerning the educational level of the child's father.

Over half of the participants had completed 11 or 12 years of primary schooling and little over one fourth had also completed high school (table 3.2).

Table 3.2. General school education.

	Mother (N=400; Missing 4)		Father (N=353; Missing 47)	
	Number	Pct.	Number	Pct.
8 th grade or less	11	2.78	22	7.24
9-10 th grade	52	13.13	48	15.79
11-12 th grade	219	55.30	163	53.62
High school	103	26.01	68	22.37
Still in school	11	2.78	3	0.99
Total	396	100.00	304	100.00

51% of the participants had completed an education, the same applied for 57% of the fathers. Here it should be noted, that there were more missing values on education of the fathers, than the mothers, which was probably due to the fact that the fathers did not participate in the interview.

Table 3.3 shows the length of education separately for mothers and fathers. More men than women had a long education (>4 years). Approx. one fifth of both women and men had less than 3 years of education, and almost half did not have an education at all. As could be expected, it is generally the older participants that had the longest educations (results not shown), since many of the younger participants probably had not finished their education yet.

Table 3.3. Length of mid-level or higher education.

	Mother (N=400; Missing 4)		Father (N=353; Missing 34)	
	Number	Pct.	Number	Pct.
No education	194	49.0	138	43.3
< 3 years	72	18.2	68	21.3
3-4 years	48	12.1	20	6.3
>4 years	6	1.5	16	5.0
Length of education unknown	76	19.2	77	24.1
Total	396	100.0	319	100.0

Another way of assessing education is to count the total years of schooling (including school and subsequent vocational or higher education). The participants in the second and third part of the study were asked this for themselves and for the father of the child. Most participants indicated that they had between 11 and 15 years of total schooling, and that the same applied to the father of the child (table 3.4). More men than women had 16 years of schooling or more.

Table 3.4. Total years of schooling.

	Mother (N=353; Missing 22)		Father (N=353; Missing 84)	
	Number	Pct.	Number	Pct.
<10	12	3.6	16	6.0
11-15	209	63.1	147	54.7
16+	110	33.2	106	39.4
Total	331	100.0	269	100.0

Employment and working conditions

The job situation of the participants was primarily assessed by five questions:

1. What is your occupation?
2. How many hours do you normally work per week?
3. How physically strenuous is your job? (mainly sedentary work that is not physically demanding; work that is performed standing or walking, but otherwise not physically demanding; work that requires standing/walking and lifting/carrying; heavy or fast work that is physically demanding).
4. How is the work rate or pressure at your work? (far too high: too high; suitable; too low; far too low).
5. How much influence do you have on the organization of your work? (great influence; some influence; little influence; no influence).

Table 3.5. Hours of work per week of mothers (N=400; Missing 9).

	Number	Pct.
Unemployed	120	30.7
< 26	14	3.6
26-39	29	7.4
40	206	52.7
41+	22	5.6
Total	391	100.0

The majority of the participants worked 40 hours per week, which was the official number of working hours in a full-time position on Greenland at the time of the study (table 3.5) and had a job that was either sedentary or required only standing and walking (table 3.6).

Table 3.6. Description of work of mothers (N=400; Missing 8).

	Number	Pct.
Unemployed	120	30.6
Sedentary occupation	93	23.7
Standing/walking but otherwise not physically demanding	139	35.5
Standing/walking and lifting/carrying	37	9.4
Physically demanding occupation	3	0.8
Total	392	100.0

3% of the participants with a job found that the pace in their work was too high, and that they had only little or no influence at all on the organisation of their work. Further 11% indicated to have too much workload and only some influence on how their work was organised (results not shown). This is a combination of factors known to be related to stress and damaging health outcomes.

Housing conditions

The participants' housing conditions were examined by a question on their type of living arrangement, with the possible answers: Renting; co-operative housing; privately owned house or apartment; living with parents; homeless (for instance temporarily living with friends etc.). The participants were also asked how many rooms there were in their house or apartment, and the number of adults and children living there. On the basis of the latter two variables, the number of persons per room was calculated.

From table 3.7 it can be seen, that 70% of the participants were renting the place where they lived, and that almost one fifth was living with their parents. Only few participants lived in either co-operative housing or owned their house or apartment. This could be due to the general housing conditions in Greenland, where people traditionally rent houses owned by the government or municipality. Only few participants were homeless. It was mainly participants under 20 years of age who lived with their parents, while the majority of the participants in the age groups over 20 years lived in rented housing (results not shown).

Table 3.7. Housing conditions of mothers.

	1st interview (N=400; Missing 1)		2nd interview (N=324; Missing 3)	
	Number	Pct.	Number	Pct.
Rented	278	69.7	230	71.7
Co-operative	20	5.0	26	8.1
Privately owned	18	4.5	20	6.2
Living with parents	74	18.6	40	12.5
'Homeless'	9	2.3	5	1.6
Total	399	100.0	321	100.0

25% of the participants lived in a house or apartment with less than one person per room. Almost one third of the participants had one room per person where they lived. The remaining participants lived in houses or apartments with more residents than rooms (Table 3.8).

Table 3.8. Number of persons per room.

	1st interview (N=400; Missing 3)		2nd interview (N=324; Missing 5)	
	Number	Pct.	Number	Pct.
<1	100	25.2	46	14.4
1	125	31.5	83	26.0
1.1-1.9	112	28.2	135	42.3
2+	60	15.1	55	17.2
Total	397	100.0	319	100.0

In the follow-up interview six months after giving birth, the living conditions of the participants were assessed again, using the same questions as described above. The main change was that the proportion of participants living with their parents had decreased from 19% to 13% (table 3.7).

The number of persons per room had naturally gone up at the second interview, since there was now one more child in the family (table 3.8). Especially the proportion of participants who lived in a house or apartment with between one and two persons per room increased and fewer participants had one person or less per room.

Health

Self-rated health

Self-rated health was assessed using the question "How would you rate your health", with the answer categories: Very good; good; fair; poor; very poor. As shown in table 3.9 the participants generally rated their health positively. 40% of the participants found their health to be 'very good'. Further 50% regarded their health as being 'good'.

The participants were asked to rate their health again at the second interview. In comparison with their self-rated health before giving birth, fewer participants rated their health as 'very good'. More participants indicated to have a 'fair' health compared to before their child was born (table 9). This change in self-rated health was highly significant with a χ^2 -test ($p < 0.001$).

Table 3.9. Self-rated health of mothers before and after delivery.

	1st interview (N=400; Missing 2)		2nd interview (N=324; Missing 3)	
	Number	Pct.	Number	Pct.
Very good	157	39.5	110	34.3
Good	200	50.3	161	50.2
Fair	37	9.3	47	14.6
Poor	4	1.0	3	0.9
Total	398	100.0	321	100.0

Activity restriction

When asked whether they had a long-standing disease or disability, 12% of the participants expressed that they had some illness.

The participants were also asked whether they, within the last 2 weeks, had been restricted in performing their normal activities due to illness, injury or other sufferings, and for how many days they had been restricted. Little over three quarters of the participants had not felt restricted, whereas almost ten percent had been unable to perform their usual activities for the greater part of the time (table 3.10).

Table 3.10. Number of days with activity restriction within the last 2 weeks (N=400; Missing 2)

	Number	Pct.
Not been restricted	305	76.6
1-3 days	23	5.8
4-7 days	17	4.3
8-10 days	4	1.0
11-14 days	36	9.1
Been restricted but unknown for how many days	13	3.3
Total	398	100.0

Symptoms

Information regarding the health status of the participants was also obtained through questions concerning whether she had been troubled by any of 15 specified symptoms within the last 14 days (not troubled; somewhat troubled; seriously troubled). These symptoms included pains in muscles and joints, eczema, headache, stomach ache, toothache, anxiety, feeling depressed, sleep disturbance, had a cold or the flu, experienced shortness of breath etc.

As shown in table 3.11 only 3% of the participants had not been troubled by a single of the 15 symptoms, whereas an equal proportion of the participants had been somewhat and seriously troubled by symptoms or pains.

Table 3.11. Extent of trouble caused by symptoms during the last two weeks (N=400; Missing 4).

	Number	Pct.
Not troubled by any of 15 symptoms	12	3.0
Somewhat troubled by one or more of 15 symptoms	192	48.5
Seriously troubled by one or more of 15 symptoms	192	48.5
Total	396	100.0

Lifestyle

Diet

The central dietary question was a food frequency questionnaire that had been used in previous health interview surveys in Greenland. The food items included six types of country food and eight types of store bought food, with six frequency categories ranging from 'daily' to 'never'. The country foods included were; seal meat, whale meat, sea birds, Greenlandic fish, caribou/musk-ox/hare and mutton, while pre-prepared meals, potatoes, other vegetables, butter, cheese, eggs, fresh fruit and milk products were included as typical store bought foods.

In general few of the participants ate seal meat, with only 10% consuming this one or more times every week (table 3.12). The participants ate fish more frequently: 24% indicated that they had fish at least once a week. The consumption of vegetables other than potatoes and fresh fruit were far more frequent, despite the fact that this must be bought in the store and is often expensive. Table 3.12 shows that 28% consumed vegetables and 43% consumed fresh fruit every day.

Table 3.12. Consumption of specific foods (N=400; Missing 2 and 6 respectively).

	Seal meat		Greenlandic fish		Vegetables other than potatoes		Fresh fruit	
	Number	Pct.	Number	Pct.	Number	Pct.	Number	Pct.
Every day	0	0.00	1	0.3	112	28.1	168	42.6
4-6 times per week	4	1.0	7	1.8	171	43.0	131	33.3
1-3 times per week	36	9.1	87	21.9	95	23.9	65	16.5
2-3 times per month	85	21.4	137	34.4	15	3.8	26	6.6
Less often	242	60.8	156	39.2	5	1.3	4	1.0
Never	31	7.8	10	2.5	0	0.0	0	0.0
Total	398	100.0	398	100.0	398	100.0	394	100.0

Physical activity

The participants were asked three questions regarding physical activity. The first focused on their general activity level: "Which of the following describes best your physical activity in your leisure time during your pregnancy?" with the following five response categories:

- a. Reading, watching TV, or other sedentary activity.
- b. Light physical exercise at least 4 hours per week, for instance walking (shopping or to and from work) or light domestic chores.
- c. Occasional physical exercise (for instance sports).
- d. Regular sports or other physical exercise at least 4 hours per week.
- e. Heavy sports several times per week.

In the analysis categories d. and e. were combined as very physically active.

The majority of the participants were moderately physically active, either doing light activity 4 hours a week or occasionally doing sports or the like. Only 7% informed that they were physically inactive (table 3.13).

Table 3.13. Physical activity (N=400; Missing 136).

	Number	Pct.
Physically inactive	18	6.8
Light physical activity minimum 4 hours per week	214	81.1
Occasional physical activity (for instance sports)	25	9.5
Very physically active	7	2.7
Total	264	100.0

Smoking

The prenatal interview questionnaire included six questions on smoking:

1. Do you smoke? (yes, daily; yes, but there are days where I do not smoke; no)
2. Did you ever smoke? (yes, stopped less than six months ago; yes, stopped longer ago; no)
3. How much do or did you usually smoke a day? (number of cigarettes; number of cheroots/cigars/pipes)
4. Do you smoke less now than before you got pregnant? (yes, have stopped smoking; yes, smoke less; no, the same; no, smoke more; did not smoke before pregnancy)
5. How old were you when you started smoking daily?
6. How many people smoke in your home on an average day, including yourself?

The first three questions were combined to a variable describing the smoking habits of the participants, divided into the following categories: Non-smoker; previous smoker; smoker, 1-9 cigarettes per day; smoker, 10 cigarettes or more per day.

Little under half of the participants smoked, while 39% had stopped smoking and 16% had never smoked (table 3.14). However, of the non-smoking participants, 37% were exposed to passive smoking at home (results not shown).

Table 3.14. Smoking.

	1st interview (N=400; Missing 9)		2nd interview (N=324; Missing 16)	
	Number	Pct.	Number	Pct.
Non-smoker	62	15.9	60	19.5
Previous smoker	153	39.1	100	32.5
1-9 cigarettes per day	135	34.5	117	38.0
10+ cigarettes per day	41	10.5	31	10.1
Total	391	100.0	308	100.0

Table 3.15 shows that one fourth of the participants indicated that they had stopped smoking during the pregnancy and an additional 31% of the participants reported smoking less than before becoming pregnant.

Table 3.15. Smoking during pregnancy (N=400; Missing 3).

	Number	Pct.
Quit smoking	100	25.2
Smoke less	121	30.5
No change	39	9.8
Smoke more	15	3.8
Did not smoke before pregnancy	122	30.7
Total	397	100.0

For women participating in the first and third parts of the study, information on smoking habits was collected again at follow-up, using the same questions as in the prenatal interview.

Table 3.14 shows, that almost half of the participants smoked between 1 and 10 cigarettes per day, which was an increase compared to the information obtained at the first interview. There had been a decrease in previous smokers, while the proportion of non-smokers and participants smoking more than 10 cigarettes per day had not changed noticeably. This change in distribution of participants on smoking status might be due to some participants quitting smoking during pregnancy, and then resuming smoking after giving birth. Since there was no absolute increase in smokers, another possible explanation is that the difference in the two distributions is caused by selection, since not all participants were asked about smoking habits in the second interview.

Alcohol

The questions included in the interview questionnaire to obtain knowledge about the participants' alcohol habits, were modified during the study. Thus in study part I the participants were asked different questions regarding alcohol than the participants in part II and III. In part II and III of the study the participants were asked more detailed questions regarding their intake of alcohol before and during the pregnancy. Only data for these two last parts will be reported here.

The questions regarding alcohol intake before becoming pregnant were:

1. Did you party (drink alcohol)? (yes; no)
2. How often did you party? (every day; ... times a week; ... times a month; ... times a year; almost never)
3. What did you typically drink when partying? (beer; wine; hard liquor; liquor in drinks. For each of these categories the participant was further asked to indicate the percent of alcohol, the number of units drunk at each occasion and how often she drank this type of alcohol)

The participants were asked the following questions concerning alcohol habits during the pregnancy:

1. Have you been partying or drinking alcohol during your pregnancy? (yes; no) - If yes: How often did you party? (same categories as above)
2. If yes, what did you typically drink when partying? (same categories as above)

The participants' intake of alcohol around the time of conception was also assessed, but will not be reported here.

The number of drinks consumed per week before the pregnancy has been calculated, and the distribution of the participants is shown in table 3.16 (only participants in the two last parts of the study). Almost half of the participants did not drink alcohol. 48% of the participants had moderate alcohol consumption, including 41% who reported to drink between one and seven units per week and 8% who reported a weekly alcohol consumption of eight to 14 units. Four percent drank more than the recommended sensible drinking limits (maximum 14 units for non-pregnant women).

Table 3.16. Number of drinks per week.

	<u>Before</u> pregnancy (N=333; Missing 9)		<u>During</u> pregnancy (N=333; Missing 17)	
	Number	Pct.	Number	Pct.
0	153	47.2	292	92.4
1-7	133	41.1	19	6.0
8-14	25	7.7	4	1.3
15-21	8	2.5	1	0.3
22+	5	1.5	0	0.0
Total	324	100.0	316	100.0

Information on alcohol consumption during the pregnancy is also shown in table 3.16. The majority of the participants reported not to drink alcohol during the pregnancy, while 8% of the participants consumed one unit of alcohol or more on average every week of the pregnancy.

The CAGE questionnaire was included in the prenatal interview as a means of detecting alcoholism. The CAGE questionnaire is a short alcohol-screening test that has been validated and used in a number of populations. It includes the following four questions (all answered yes or no):

1. Have you ever felt that you ought to cut down on your drinking?

2. Have people ever annoyed you by criticising your drinking?
3. Have you ever felt bad or guilty about your drinking?
4. Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (eye opener)?

The majority of the participants (80%) had no positive scores on the CAGE-scale. 8% had one and 9% had two positive scores respectively. 3% of the participants have a score of either 3 or 4 positive answers on the CAGE scale. In the literature different cut-points on the CAGE-scale have been used as a positive test result.

The self-administered questionnaires comprised more personal questions on alcohol. These included the question "Were there any problems caused by alcohol in your home when you grew up?" (Yes, often; yes, sometimes; no, never). The participants were asked this question in both self-administered questionnaires and their two answers have therefore been combined. If the participants gave different answers in the two questionnaires the answer indicating the highest level of problems was used in the analysis.

41% of the participants indicated, in both self-administered questionnaires, not having experienced problems with alcohol at home when growing up (table 3.17). One third had experienced problems now and then and almost one fourth reported often experiencing problems with alcohol at home during their childhood.

Table 3.17. Alcohol problems in childhood home (N=356; Missing 10).

	Number	Pct.
Yes, often	86	24.9
Yes, now and then	117	33.8
No	143	41.3
Total	346	100.0

To get a further measure of the participants' own intake of alcohol, and to serve as validation of the answers obtained in the interviews, the self-administered questionnaire also included questions regarding alcohol. These will however not be described in this report.

Marihuana

In the prenatal interview, participants from the last two parts of the study were asked about their use of marihuana and other drugs, both in general and during the pregnancy. All participants were asked additional questions regarding use of hash in the self-administered questionnaires. Analyses of these results are not included in the present report.

Pregnancies

Conditions regarding previous pregnancies (if any) were assessed by questions on whether the participants had been pregnant before, whether they had ever had an abortion (spontaneous or induced) and what number in the family the child of the present pregnancy would be.

85% of the participants had been pregnant before. Almost one fifth of the participants had never had an abortion, whereas 64% had had one or more induced abortions and one third had experienced one or more spontaneous abortions (table 3.18).

*Table 3.18. Abortion (N=400)**

	Number	Pct.
Never had an abortion	75	18.8
One or more spontaneous abortions	132	33.3
One or more induced abortions	256	64.0

* Since the same participant can have had both spontaneous and induced abortions, the numbers in this table do not sum to 400 participants.

Table 3.19 shows the child’s number in the family. For almost half of the participants this child was their first, whereas 28% already had one child, so that this child would be child number two in the family. 30% of the children were born in families with at least two other children.

Table 3.19. Child will be number X in family (N=400 ; Missing 0).

	Number	Pct.
1	170	42.5
2	112	28.0
3	73	18.3
4	28	7.0
5	10	2.5
6	5	1.3
7	2	0.5
Total	400	100.0

Among the questions regarding the present pregnancy were: Whether the pregnancy was planned, and if the participant had had an amniocentesis during this pregnancy.

For over half of the participants the present pregnancy was planned, and for 44% it was wanted although not planned. 4% of the participants expressed that the pregnancy was unwanted, but had been accepted.

10% of the participants reported having had an amniocentesis during the present pregnancy.

Breast-feeding

In the follow-up interview, approx. 6 months after the birth of the child, the participants were asked whether they were still breastfeeding. 61% responded to be doing so. Only 1% had not breastfed their child at all (table 3.20).

Table 3.20. Still breast-feeding (N=324; Missing 1).

	Number	Pct.
Yes	197	61.0
No, but have done earlier	122	37.8
No have not breast-fed	4	1.2
Total	323	100.0

4. Birth registration

Birthweight and -length

Information on the weight and length of the child at birth was obtained through the notifications of birth. The majority of the children weighed between 3000 and 4000 grams at birth, and the distribution in birth weight ranged from a minimum of 1235 grams to a maximum 5300 grams. The mean weight was 3592 grams.

The mean length of the children was 52 cm, ranging from 39 cm to 60 cm. Most of the children were between 50 and 53 cm long at birth. Tables 4.1 and 4.2 show the distribution of the children on weight and length at birth respectively.

Table 4.1. Birthweight at birth (N=400; Missing 1).

	Number	Pct.
< 2000g	6	1.5
2000-2499g	10	2.5
2500-2999g	37	9.3
3000-3499g	101	25.3
3500-3999g	152	38.1
4000-4499g	76	19.1
4500g +	17	4.3
Total	399	100.0

	Weight (g)
Mean	3592
Minimum	1235
Maximum	5300

Table 4.2. Length at birth (N=400; Missing 2).

	Number	Pct.
< 47cm	12	3.0
47-49cm	40	10.1
50-51cm	115	28.9
52-53cm	150	37.7
54-56cm	73	18.3
57cm +	8	2.0
Total	398	100.0

	Length (cm)
Mean	51.7
Minimum	39.0
Maximum	60.0

5. Analyses of biological samples

The biological analyses reported here include mercury in maternal hair and blood, other metals (lead, selenium) in maternal blood, and PCB and pesticides in maternal blood, cord blood and milk. Of the 403 participants, 399 had at least one biological sample analysed. Table 5.1 shows the distribution of samples. While almost all participants had a hair sample analysed, this was true for only a reduced proportion of the participants regarding the blood and milk samples. This was primarily due to factors related to the study design. Hair samples were taken during the prenatal interview. At this interview the participant was handed out a sheet with laboratory labels and told to give this to the lab technician the next time she went for blood tests. Many participants forgot to do this and we had no possibility to check on the performance. The cord blood was taken in the delivery room and we were totally at the mercy of the midwives, who had lots of other things to attend to. Finally, the milk samples were collected several months after the first interview, at a time when the mothers had possibly forgotten all about the study; some mothers didn't breastfeed at all or had stopped, others were worried about their baby not getting enough milk, and still others had difficulties producing the sample.

Table 5.1. Biological samples.

Sample	N
At least one biological sample	399
Mercury in hair	395
Mercury in maternal blood	265
At least one PCB analysis	335
PCB in maternal blood	266
PCB in cord blood	137
PCB in milk	192

The following tables summarize the concentrations of the different contaminants in the four media (tables 5.2 and 5.3). The distribution of concentrations is quite wide, ranging for hair mercury from 0.08 to 15 µg/g and for IUPAC congener 153 from 15 to 1200 µg/kg. Concentrations in non-indigenous persons from temperate latitudes are lower by a factor of 5-10 or more.

Table 5.2. Mercury and lead in maternal hair and full blood.

	N	Aritmetic Geometric		SD	Minimum	Maximum
		mean	mean			
Mercury in hair (µg/g)	395	1.8	1.3	1.5	0.08	15.0
Mercury in blood (µg/L)	265	5.5	4.1	4.6	0.17	39.0
Lead (µg/L)	265	16.9	13.4	13.5	3.3	80.8

Table 5.3. IUPAC PCB congeners and pesticides in maternal blood on a fat basis. Concentrations in $\mu\text{g}/\text{kg}$.

	Pct. de- tected	Aritmetic mean	Geometric mean	SD	Minimum	Maximum
C 28	19.5	6.2	3.2	15.3	0.9	132.1
C 52	8.6	24.5	9.4	24.7	0.9	110.0
C 99	94.2	22.8	15.0	23.2	1.3	150.0
C 101	57.5	3.4	2.3	7.8	0.4	120.0
C 105	84.2	4.0	2.8	4.0	0.4	25.0
C 118	100.0	23.4	16.6	23.3	1.3	170.0
C 128	38.2	1.7	1.4	1.2	0.1	8.7
C 138	100.0	75.4	54.2	73.0	8.6	530.0
C 153	100.0	148.3	104.2	153.5	15.0	1200.0
C 156	98.8	9.9	7.0	9.6	0.8	74.0
C 170	100.0	25.9	17.8	27.6	1.7	220.0
C 180	100.0	73.9	50.4	80.5	4.7	630.0
C 183	97.0	8.2	5.9	7.7	0.8	51.0
C 187	100.0	32.2	21.9	34.6	2.7	300.0
Aroclor1260	100.0	1164.4	826.8	1171.1	120.0	8800.0
Aldrin	17.7	1.4	1.3	0.6	0.32	3.7
DDE	100.0	336.7	237.8	356.5	31.0	2700.0
DDT	52.5	10.5	7.5	10.6	0.5	76.5
Beta-HCH	90.1	10.6	7.3	11.0	0.9	79.0
Alpha chlordan	18.5	1.1	0.9	0.6	0.0	3.7
Cisnonachlor	96.2	18.1	10.8	21.3	0.3	171.8
Gamma chlordan	18.1	0.7	0.6	0.4	0.0	2.8
Hexachlorobenzene	99.2	78.0	57.1	77.1	6.5	690.0
Mirex	65.3	6.1	3.9	8.2	0.3	90.0
Oxychlordan	99.2	48.6	28.2	61.7	1.3	500.0
Transnonachlor	99.6	103.2	60.1	124.5	1.8	950.0

All biomarkers were significantly correlated (table 5.4). While the correlation between PCB and mercury was moderate – Pearson's r about 0.4 – the correlations between the two measures of mercury and the three measures of PCB were about 0.7-0.8. It is therefore to some extent possible to use PCB measures in cord blood or milk as a substitute for missing PCB measurements in maternal blood and thus to increase the number of participants with PCB measurements.

Table 5.4. Pearson correlations between selected contaminants. All correlations were significant ($p < 0.001$).

	Mercury in hair	Mercury in maternal blood	IUPAC PCB congener #153 in maternal plasma	IUPAC PCB congener #153 in cord plasma
Mercury in hair				
Mercury in maternal blood	0.73			
IUPAC PCB congener #153 in maternal plasma	0.35	0.33		
IUPAC PCB congener #153 in cord plasma	0.38	0.39	0.69	
IUPAC PCB congener #153 in milk	0.39	0.31	0.85	0.77

The concentrations did not differ significantly between the three parts of the study except for lead in maternal blood, the concentration of which declined from 38.2 $\mu\text{g/L}$ in part I to 17.0 $\mu\text{g/L}$ in part II and 12.8 $\mu\text{g/L}$ in part III ($p < 0.001$). Lead exposure is predominantly due to consumption of birds containing microscopic lead particles from lead shot.

The association between blood selenium, which is a biomarker for the consumption of marine food, and the contaminants were statistically significant although not very high (table 5.5).

Table 5.5. Pearson correlations between maternal blood selenium and selected contaminants.

	Selenium	P value
Mercury in hair	0.43	<0.01
Lead in maternal blood	0.26	<0.01
Mercury in maternal blood	0.55	<0.01
IUPAC PCB congener #153 in maternal plasma	0.23	<0.01
IUPAC PCB congener #153 in cord plasma	0.39	<0.01
IUPAC PCB congener #153 in milk	0.20	0.02

6. The Greenland – Nunavik study

Part II of the child cohort (118 participants) was a collaborative study with Dr. Gina Muckle, Laval University, Canada, and professors Joseph Jacobson and Sandra Jacobson, Wayne State University, USA. The purpose of this study was to analyse the association of pre and postnatal PCB exposure with neuropsychological development. This study also includes 216 Inuit children from Nunavik, Northern Québec, with a view to combine the two national datasets. In addition to the variables in the Greenland cohort proper, this part of the study includes a large number of exposure variables and confounders plus a number of child neuropsychological tests and additional interviews at 1 and 12 months after delivery, which were outlined in table 2.2.

At the time of writing (June 2007) we are still waiting for our Canadian and American collaborators to take the lead in the quite complicated analyses that were planned at the onset of part II of the study.

7. Publications and follow-up of the cohort

The Greenland child cohort was designed in order to be able to follow the health of the children through life and relate later health to prenatal exposure. The small number of participants compared with, e.g. the Danish child cohort, the Faeroese cohorts and other cohorts, reduces the possibilities for the identification of risk factors. On the other hand, the Greenland cohort is unique because it covers a unique population group with exposures that differ significantly from those of other cohorts.

So far, the following concrete cross-sectional studies and follow-up studies have been planned in addition to the studies alluded to above in section 6. We would like to invite other researchers to make use of the data for longitudinal studies of child health in Greenland. Applications for use of the data may be directed to the National Institute of Public Health; a decision will be made by the steering committee of the study.

Study 1. Prenatal exposure of pregnant women in Greenland to environmental contaminants

A descriptive study of blood and hair levels of PCB, pesticides, mercury and lead in relation to age, year, place.

Study 2. Determinants of PCB, pesticide, mercury and lead exposure in Inuit women of childbearing age

The relevant determinants are the diet, which was assessed by a food frequency questionnaire with 14 items plus some additional questions on the frequency of local and imported food etc. Selenium is the only dietary biomarker available (N=265).

Study 3. Environmental determinants of low birth weight in Greenland

The birth weight and length of the children in the cohort will be analysed with environmental exposure to contaminants, smoking and alcohol as explanatory variables and with appropriate confounders.

Study 4. Ear infections and other infections in early childhood

In collaboration with the ENT department at Copenhagen University Hospital a follow-up of the child cohort has been planned. The central hypothesis of the study is that prenatal exposure to mercury, PCB and pesticides negatively affects the development of the immune system with a resulting increase in the number and severity of infections. All children will be otologically examined and relevant information will be extracted from their hospital and primary care records.

8. Conclusion

The Greenland child cohort study has information from 403 pregnant women and their children born 1999-2005. The women are representative of Greenlandic (Inuit) women living in towns on the central west coast of Greenland. Information on socio-cultural background, physical and mental health, lifestyle, pregnancy history, sexual life, and violence was obtained through structured interviews and self-administered questionnaires. Additional information was obtained from birth registrations. Maternal hair and blood, cord blood and milk samples were analysed for heavy metals and organic pollutants. The children can be followed up in health registers and hospital records in order to analyse risk factors during pregnancy and early life for diseases in later childhood and adulthood. Mothers and children may be contacted again for future studies.

The strength of the study is that it is a well-characterized cohort of a unique and well-defined population. The weakness is that it is a small cohort with limited statistical strength.

Cohort data will be made available to other researchers who present a scientifically and ethically acceptable project description. The decision about distribution of data and the fee for this will be taken by the cohort steering committee.

Serial No.: _____

Questionnaire:PCBivaaq1.eng

ID#: _____



The Greenland Child Cohort

IVAAQ

Main questionnaire 1st interview

Date of interview: _____

Interviewer: _____

Issittumi Peqqissusermik Ilisimatusarfik – Nuuk, Copenhagen, Aarhus

BACKGROUND INFORMATION

1.

Where were you born? (town or village) _____

2.

Where did you live when you were 5 years

old?: _____

(in Greenland state town or village; otherwise just the country)

Where did you live when you were 10 year

old?: _____

(in Greenland state town or village; otherwise just the country)

3.

Where were your parents born?(one cross in each column)

	father	mother
village in Greenland	<input type="checkbox"/> 1	<input type="checkbox"/> 1
town in Greenland	<input type="checkbox"/> 2	<input type="checkbox"/> 2
not in Greenland	<input type="checkbox"/> 3	<input type="checkbox"/> 3

4.

What nationality are or were your grand parents? (one cross in each column)

	Greenlander	Dane	other
a. maternal grandmother	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
b. maternal grandfather	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
c. paternal grandmother.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
d. paternal grandfather	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3

5.

What were your parents' occupation when you were 10 years old? (*one cross in each column*)

	Father	Mother
hunter/fisherman (full-time).....	<input type="checkbox"/> 1	<input type="checkbox"/> 1
wage earner combined with hunting/fishing	<input type="checkbox"/> 2	<input type="checkbox"/> 2
full-time wage earner	<input type="checkbox"/> 3	<input type="checkbox"/> 3
self-employed	<input type="checkbox"/> 4	<input type="checkbox"/> 4
housewife/hunter's wife/at home.....	<input type="checkbox"/> 5	<input type="checkbox"/> 5
other, what?.....		

6.

How well do you speak Greenlandic and Danish? (*one cross in each column*)

	a. Greenlandic	b. Danish
fluently	<input type="checkbox"/> 1	<input type="checkbox"/> 1
fairly	<input type="checkbox"/> 2	<input type="checkbox"/> 2
with difficulty	<input type="checkbox"/> 3	<input type="checkbox"/> 3
not at all	<input type="checkbox"/> 4	<input type="checkbox"/> 4

6a.

Which language do you usually speak at home? (*X both columns*)

	greenlandic	danish
fluently	<input type="checkbox"/>	<input type="checkbox"/>
fairly	<input type="checkbox"/>	<input type="checkbox"/>
with difficulty.....	<input type="checkbox"/>	<input type="checkbox"/>
not at all.....	<input type="checkbox"/>	<input type="checkbox"/>

7.

Do you consider yourself a Greenlander or a Dane?

- Greenlander 1
Dane 2
both Greenlander and Dane 3
other, what _____ 4
don't know 5

8.

Are you

- single (= never married) 1
married 2
separated, divorced 3
widow(er) 4

9.

Do you cohabit with a steady partner without being married?

- yes 1
no..... 2

10.

How long was your schooling?

- | | you | partner |
|--|----------------------------|----------------------------|
| 8th grade or less | <input type="checkbox"/> 1 | <input type="checkbox"/> 1 |
| 9th-10th grade, lower secondary school, lower secondary school leaving examination | <input type="checkbox"/> 2 | <input type="checkbox"/> 2 |
| 11th-12th grade | <input type="checkbox"/> 3 | <input type="checkbox"/> 3 |
| Upper secondary school, higher preparatory examination (HF), general certificate | <input type="checkbox"/> 4 | <input type="checkbox"/> 4 |
| Still at school | <input type="checkbox"/> 5 | <input type="checkbox"/> 5 |

11.

Have you completed one or more education(s)?

yes 1 which _____

no..... 2 _____

11a.

Has your partner completed one or more educations(s)?

yes Which _____

no..... _____

How many years did you and your partner go to school ____years ____years

12. udgâet

13.

What is your occupation? *(be specific: kiffaq at the hospital – not just "work at the hospital". Shop assistant at KNI – not just "work at the store")*

What is your partner's occupation?

14.

How long have you had your present job?

No. of years _____ (or number of months _____)

15.

How many hours a week do you usually work? *(include overtime, supplementary jobs etc.)*

_____ hours

16.

For how many years have you been working altogether?

No. of years _____ Have never worked 2

17.

How would you describe your job?

SHOW CARD NO. 1

- a. mainly sedentary work requiring no physical effort 1
- b. work which is mainly carried out standing or walking,
but otherwise requiring no physical effort 2
- c. work standing or walking with a good deal of lifting
and carrying 3
- d. heavy or fast work which is strenuous 4

18.

Do you often encounter or are you exposed to any of the following conditions at work? (*often means here more than two days a week.*)

- | | yes | no | don't know |
|---|----------------------------|----------------------------|----------------------------|
| a. work in bent or twisted work postures | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| b. many repeated and one-sided movements,
heavy loads (at least 10 kg) which must be carried
or lifted..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| d. noise, so you have to raise your voice to be able
to talk with somebody | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| e. cold in working areas | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| f. unpleasant heat in working areas | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| g. so much draught in working areas that you can
feel it sighing..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| h. dust visible in ordinary light (e.g. metal dust,
wood dust etc.) | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| i. chemicals including poisonous fumes, welding
smoke or other air pollution | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| j. work outdoors in the cold | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| k. other, which? _____ | | | |

19.

How is the work rate or pressure at your work?

- much too high..... 1
- a little too high
- just right
- a little too low..... 4
- much too low

20.

How much influence do you feel that you usually have on the planning of your work?

- much influence 1
- a certain influence 2
- very little influence 3
- no influence at all 4

Further questions:

If neither the interviewed person nor the husband/partner has worked within the last 12 months or received social welfare, then find out who pays (e.g. parents), and ask the following questions about this push.

Sup. 1.

As none of you work, who support you?

Sup. 2

Which education does this person have?

- 8th grade or less 1
- 9th – 10th grade, high school, diploma 2
- 11th – 12th grade 3
- Graduated from high school 4
- Still at school 5

Sup. 3

Has this person completed one or more education(s)?

Yes 1 which _____

No 2 _____

How many years did this person go to school?

Including studies (indicate time planned) _____ **years**

Sup. 4

Which job does this person have? (during the interview you have to ask for details about job and working condunktions)

HOUSING INFORMATION

21.

What are your housing conditions?

- rented residence 1
- multi-ownership scheme 2
- residence owned by you 3
- live with parents 4
- homeless (e.g. stay with friends on a temporary basis) 5

22.

How many rooms are their in your home?(do not include kitchen, bathroom, hall etc.)

23.

How many people live in your home?

Adults _____

Children 0 – 5 years: _____

Children 6 – 17 years: _____

24.

Which of the following items do you have in your home?

- | | yes | no |
|--|----------------------------|----------------------------|
| a. Video recorder..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| b. Telephone..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| c. Refrigerator | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| d. Microwave | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| e. Washing machine..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| f. Dish washer..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| g. Dinghy or boat | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| h. Snow scooter or cross-country scooter | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| i Cellular phone..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| j Computer..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |

25.

How are you satisfied with your home in general?

- most satisfied 1
- fairly satisfied 2
- somewhat dissatisfied 3
- most dissatisfied 4

HEALTH INFORMATION

26.

How would you describe your health?

- very good 1
- good 2
- fairly good 3
- poor 4
- very poor 5

27.

Do you feel stressed in your daily life?

yes, most of the time 1

yes, now and then 2

no, almost never 3

don't know 4

28.

Within the past 14 days have you had difficulty doing what you normally do due to illness, injury or other ailment? (including pregnancy)

yes, number of days _____ 1

no 2

If yes, which?

a. _____

b. _____

c. _____

d. _____

29.

Within the past 14 days have you been bothered by pains or discomfort? (*mark each line from a-o*)

- | | no | slightly | much |
|--|----------------------------|----------------------------|----------------------------|
| a. pains or discomfort in your shoulder or neck | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| b. pains in your back or the small of your back | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| c. pains or discomfort in arms, hands, legs, knees
hips or joints | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| d. headache..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| e. palpitations | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| f. anxiety, nervousness, agitation and fear | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| g. difficulties or problems sleeping | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| h. have felt melancholy, depressed, unhappy | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| i. fatigue | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| j. abdominal pain, stomach ache | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| k. indigestion, diarrhoea/constipation | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| l. eczema, rash, itch | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| m. cold, head cold, cough | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| n. respiratory trouble, breathlessness | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| o. toothache | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |

30.

Do you suffer from any long-standing illness, after-effect of injury, handicap or other long-standing disorder?

- yes 1
- no 2

If yes: Which illness or handicap?

1. _____
2. _____
3. _____

31.

Has a doctor ever told you that you had

(mark each line from a-n)

	yes	no
a. diabetes	<input type="checkbox"/> 1	<input type="checkbox"/> 2
b. epilepsi	<input type="checkbox"/> 1	<input type="checkbox"/> 2
c. rheumatism	<input type="checkbox"/> 1	<input type="checkbox"/> 2
d. metabolic disorder	<input type="checkbox"/> 1	<input type="checkbox"/> 2
e. hypertension	<input type="checkbox"/> 1	<input type="checkbox"/> 2
f. disorder of the urinary organs	<input type="checkbox"/> 1	<input type="checkbox"/> 2
g. cerebral haemorrhage/thrombosis in the brain	<input type="checkbox"/> 1	<input type="checkbox"/> 2
h. chronic bronchitis	<input type="checkbox"/> 1	<input type="checkbox"/> 2
i. ulcer	<input type="checkbox"/> 1	<input type="checkbox"/> 2
j. reduced hearing	<input type="checkbox"/> 1	<input type="checkbox"/> 2
k. earache or ear-flow	<input type="checkbox"/> 1	<input type="checkbox"/> 2
l. impaired vision	<input type="checkbox"/> 1	<input type="checkbox"/> 2
m. hepatitis (e.g. jaundice)	<input type="checkbox"/> 1	<input type="checkbox"/> 2
n. back disorders	<input type="checkbox"/> 1	<input type="checkbox"/> 2

32.

Do you suffer from allergy?

yes	<input type="checkbox"/> 1
no	<input type="checkbox"/> 2
don't know	<input type="checkbox"/> 3

(If no: go to question 34)

33.

How does the disease manifest itself?

	Diagnosed by a doctor?			
	yes	no	yes	no
hay fever/allergic cold	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
rash, eczema (skin manifestations)I	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
diarrhoea, stomach ache	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
food allergy	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
respiratory problems (asthma)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
other _____				

34.

Does the child's father suffer from allergy?

- yes 1
- no 2
- don't know 3

(If no: go to question 36)

35.

How does the disease manifest itself in him?

			Diagnosed by a doctor?	
	yes	no	yes	no
hay fever/allergic cold	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
rash, eczema (skin manifestations)I	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
diarrhoea, stomach ache	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
food allergy	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
respiratory problems (asthma)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
other _____				

36.

Have you ever had abdominal diseases or problems?

- yes 1
- no 2
- ved ikke 3

(If no: go to question 38)

37.

Which abdominal diseases have you had?

			Did you see a doctor?	
	yes	no	yes	no
pain	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
inflammation of the internal organs	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
bleeding disorder	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2

Other abdominal problems? _____

38.

Have you ever had a cell sample (biopsy) taken from the cervix?

- no, never 1
- yes, more than 3 years ago 2
- yes, 1-3 years ago 3
- yes, within the past 12 months 4
- don't know 5

39.

Have you ever suffered from a venereal disease e.g. gonorrhoea, chlamydia or syphilis?

- yes 1
- no 2

If you answered yes:

Which? _____

Was it within the past 12 months?

- yes 1
- no 2

40.

Have you ever been pregnant before?

- yes 1
- no 2

(If no: go to question 44)

41.
How many babies have you had, and for how long did you breast-feed them totally or partially?

	Age	sex	breast-feed how long	stays with you	have you adopted the child	Who have you adopted from
1						
2						
3						
4						
5						
6						
7						
8						
8						

42.
Have you ever had a spontaneous or provoked abortion?

no 2

yes, spontaneous abortion (No. of times: _____)

yes, provoked abortion (No. of times: _____)

43.
Have you ever had an extrauterine pregnancy?

yes 1

no 2

PRESENT PREGNANCY

44.

How would you describe your pregnancy? Is it

planned 1

accidental, but welcome 2

unwanted, but accepted 3

45.

Have you been taking any medication during pregnancy?

Yes 1

No 2

If yes: which?

a. _____ in week _____

b. _____ in week _____

c. _____ in week _____

46.

Have you been taking any vitamins, diet supplements, fish oil or natural medicinal products while pregnant?

yes 1

no 2

If yes: what is the name of the diet supplement or natural medicinal product you have been taking, and in which weeks did you take it?

a. _____ in week _____

b. _____ in week _____

c. _____ in week _____

47.

Have you had an amniocentesis taken?

yes 1

no 2

don't know 3

48.

Did the tests show normal conditions?

yes 1

no 2

don't know 3

49.

Do you worry about the imminent delivery?

not at all 1

some 2

very much 3

50.

Do you worry about the health of your unborn baby?

not at all 1

some 2

very much 3

51.

Do you intend to breast-feed your baby?

yes 1

no 2

don't know 3

If yes, for how long? _____

52.

Have you had severe premonitory pains?

yes 1

no 2

If yes:

In which weeks _____

53.

Have you had any inflammatory diseases or infections while being pregnant?

By this I mean e.g. influenza, inflammation of the throat or bladder

yes 1

no 2

If yes, what?

a. _____ **in week** _____

b. _____ **in week** _____

c. _____ **in week** _____

54.

Have you been running a fever while being pregnant?

yes 1

no 2

If yes:

How many times? _____

In which weeks of pregnancy? _____

For how many days? _____

What was the highest temperature measured?

55.

Have you been bleeding from the vagina at any point of the pregnancy?

yes 1

no 2

If yes:

For how many days? _____

In which weeks of pregnancy? _____

Was it spot bleeding or more than that? _____

56.

Have you at any point of your pregnancy called in sick or been absent from work for more than 3 days?

yes 1

nej 2

If yes:

Why? _____

57.

Have you been worrying about any of the following things?

(one cross in each column)

	ja	nej
economy	<input type="checkbox"/> 1	<input type="checkbox"/> 2
housing situation	<input type="checkbox"/> 1	<input type="checkbox"/> 2
work situation	<input type="checkbox"/> 1	<input type="checkbox"/> 2
relationship with your partner	<input type="checkbox"/> 1	<input type="checkbox"/> 2
relationship with family and friends	<input type="checkbox"/> 1	<input type="checkbox"/> 2
the pregnancy	<input type="checkbox"/> 1	<input type="checkbox"/> 2
partner's illness	<input type="checkbox"/> 1	<input type="checkbox"/> 2
your own illness	<input type="checkbox"/> 1	<input type="checkbox"/> 2
other, what? _____		

LIFESTYLE

58.

Do you smoke?

yes, on a daily basis 1

yes, but there are days when I do not smoke 2

no 3

59.

Have you been smoking earlier?

yes, I quit within the last six months 1

yes, I quit a long time ago 2

when (year) _____

no 3

60.

How much do – or did – you smoke on average per day?

a. number of cigarettes daily _____

b. number of cheroots, cigars, pipes daily _____

61.

Do you smoke less now than you did before you got pregnant?

yes, I have quit smoking completely 1

yes, I smoke less 2

no, it is the same 3

no, I smoke more 4

I did not smoke before I got pregnant 5

62.

How old were you when you started smoking on a daily basis? _____ years

63.
How many people smoke in your home in an ordinary day? (including yourself)_____

64.udgâet I PCBivaaq

65. udgâet I PCBivaaq

66. udgâet “

67. udgâet “

68. udgâet “

The following questions are about alcohol and marihuana. There are many questions, but try your best to answer them. First of all I would like you to tell me about the time before you became pregnant.

JJ. alco. 1.
Were you party?
yes.....1
no.....2
don't know.....3

JJ. alco. 2.

How often were you party? (*x or number of times*)

- _____ every day
- _____ times week
- _____ times month
- _____ times year
- _____ hardly ever

*** any kind of alcohol should be converted to ml and proof to %, or name and type of alcohol should be written in full.**

Ordinary glass of wine (11.5%) 125 ml.

Ordinary beer (4,6%) 330 ml.

Ordinary mixed drink (40%) = 30 ml.

1 shot 30 ml (= 1oz).

*** Please observe that in the box "liquor" volume and type or % alcohol must be stated.**

For liquor such as shots, i.e. snaps, brandy etc. % alcohol or the name of the relevant drink and volume in ml must be stated. This also applies to port and liqueur.

JJ alco. 3.

What did you usually drink when you did party? (*If you write in more than one box, this applies to that particular occasion/party*)

	Beer	Wine	Strong alcohol	Mixed drinks
Yes/no				
Type/size				
Number of Glasses				
How often per week/month				

JJ. alco. 4.

How old were you the first time you did party? _____

Questions about the time when you became pregnant

JJ. alco 5.

Now try to think back to the time when you became pregnant. It must have been in the month of _____. Did you party or did you drink alcohol at that time?

Yes No

If yes:

How often did you party at the time? (*x or number of times*)

_____ every day

_____ times a week

_____ times a month

_____ total number of times

_____ not at all

JJ. alco. 6.

How much did you usually drink?

	Beer	Wine	Strong alcohol	Mixed drinks
Yes/no				
Type/size				
Number of glasses				
How often per month?				

JJ. alco. 6a.
Did you drink the same amount every time, or did you sometimes drink more or less?

	Beer	Wine	Strong alcohol	Mixed drinks
Yes/no				
Type/size				
Number of glasses				
How often per week/month				

Questions about your pregnancy

JJ. alco. 7.
Have you partied or drunk alcohol during your pregnancy? Yes No
If yes:
How often have you partied or drunk alcohol during your pregnancy? (*x or number of times*)
 _____ every day
 _____ times a week
 _____ times a month
 _____ total
 _____ not at all

JJ. alco. 8.**How much did you usually drink?**

	Beer	Wine	Strong alcohol	Mixed drinks
Yes/no				
Type/size				
Number of glasses				
How often per week/month				
Pregnant week/s				

JJ. alco. 8a.**Did you drink the same amount every time, or did you sometimes drink more or less?**

	Beer	Wine	Strong alcohol	Mixes drinks
Yes/no				
Type/size				
Number of Glasses				
How often per week/month				
Pregnant week/s				

JJ. alco. 9.

Did you at any time during your pregnancy drink more? Yes No

If yes, when was that? _____ weeks ago/ _____ months ago

How much did you drink on that occasion?

	Beer	Wine	Strong alcohol	Mixed drinks
Yes/no				
Type/size				
Number of glasses				
How often per week/month				
Pregnant week/s				

JJ. alco. 10.

How many shots can you drink before feeling high?

Which kind?

	Beer	Wine	Strong alcohol	Mixed drinks
Yes/no				
Type/size				
Number of glasses				

JJ. alco. 11.

How many drinks can you hold before feeling sick or passing out?

If the answer is “don’t know”, **what is the most you have ever drunk?**

Which kind?

	Beer	Wine	Strong alcohol	Mixed drinks
Yes/no				
Type/size				
Number of Glasses				

JJ. alco. 12.

Have your friends or family ever told you about things you have done or said after drinking, things you don’t remember?

- yes..... 1
no..... 2

JJ. alco. 13.

Within the last year, have you family or friends complained that you drink?

- yes..... 1
no..... 2

JJ. alco. 14.

Have you ever had a drink first thing in the morning “to ease the nerves” or “to get rid of a hang-over”?

- yes..... 1
no..... 2

JJ. alco. 15.

Have you ever felt that you had to cut down on your drinking?

- yes..... 1
no..... 2

JJ.alco 16.

Do you find that people bother you by criticising your drinking habits?

yes..... 1
no..... 2

JJ. alco. 17.

Have you ever felt guilty or ashamed because of your drinking habits?

yes..... 1
no..... 2

Questions about marihuana

JJ. marihuana 1.

Do you occasionally smoke marihuana? Yes No

Do you smoke marihuana regularly, i.e. 2-3 times a week (or more)? Yes No

JJ. marihuana 2.

How often do you smoke marihuana? (state number of times)

_____ days a week

_____ days a month

_____ days a year

_____ total number of times

JJ. marihuana 3.

Did you smoke marihuana during your pregnancy? Yes No

JJ. marihuana 4.

If yes, how often do you smoke marihuana?

_____ times a month

_____ total number of times since you became pregnant

JJ. marihuana 5.

Did you at any time during your pregnancy smoke marihuana more often? Yes No

JJ. marihuana 6.

If yes, **how often did you smoke marihuana?** (*state number of times*)

_____ days a week for _____ weeks

_____ days a month for _____ months

_____ total number of times

JJ. marihuana 7.

Have you ever taken other drugs, e.g. heroin, cocaine, ecstasy or have you tried sniffing?

Yes No

Have you done so during your pregnancy? Yes No

If yes, what did you use? _____

How often did you use _____

_____ days a week or

_____ days a month or

_____ times

DIET

69.

Do you as a rule eat whenever you are hungry, or do you mostly eat at regular hours?

regular meals 1

whenever I am hungry 2

it varies a lot 3

70.

How often do you have supper together with your whole family – (the people you live with)?

- every day or almost every day 1
- several times a week 2
- about once a week 3
- less than once a week 4
- I live alone 5

71.

How often do you eat the following? (one cross in each line a-n)

	every day	4-6 times a week	1-3 times a week	2-3 times a month	once a month or less	never
a. seal meat.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
b. whale (e.g. dolphin narwhale, piked whale)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
c. wild fowl	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
d. Greenlandic fish	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
e. reindeer, musk ox, hare	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
f. lamb.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
g. fast food (spring rolls, tinned food etc..)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
h. potatoes	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
i. other vegetables.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
j. butter	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
k. cheese	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
l. eggs	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
m. fresh fruit.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
n. milk, yoghurt, junket	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6

72.

How often do you eat a hot meal of Greenlandic food?

- every day 1
- 4-6 times a week 2
- 1-3 times a week 3
- 2-3 times a month..... 4
- less..... 5
- never..... 6

73.

How often do you eat hot meals of Danish food?

- every day 1
- 4-6 times a week 2
- 1-3 times a week 3
- 2-3 times a month..... 4
- less..... 5
- never..... 6

74.

How often do you drink juice or soda pops?

- several times a day 1
- every day 2
- 4-6 times a week 3
- 1-3 times a week 4
- less..... 5
- never..... 6

PHYSICAL ACTIVITY

75.

Which of the statements below is most fitting for your physical activity now that you are pregnant?

SHOW CARD 2

Read, watch TV or other sedentary occupation 1

Exercise lightly at least 4 hours a week, e.g. by taking a walk

(shopping, getting to and from work), or by light house work 2

Exercise occasionally e.g. sports..... 3

Exercise by sports, go hunting or have other physically

demanding activities in my spare time at least 4 hours a week 4

Go in for sports and work out. 5

76.

Do you exercise while being pregnant so you get all hot, in a sweat or out of breath?

yes 1

no 2

don't know 3

(If no, go to question 78)

77.

Which activities do you engage in?

	yes	no	No. of months a year	No. of hours a week
Special gymnastics/aerobics for pregnant women	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____	_____
Aerobics/gymnastics	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____	_____
Dancing	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____	_____
Bicycling	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____	_____
Brisk walk	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____	_____
Jogging	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____	_____
Ball games	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____	_____
Work out	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____	_____
Badminton	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____	_____
Other	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____	_____

78.

Which of the following matters to you the most?

SHOW CARD 3

(max. 3 crosses)

- a. steady job 1
- b. good family relations 1
- c. good mental health 1
- d. good housing conditions 1
- e. good physical health 1
- f. good contact to family and friends 1
- g. ample spare time 1
- h. good economy 1
- i. good opportunities to go hunting or fishing
and be out in the open 1

NETWORK

79.

How often do you get together with family or friends and acquaintances? (*the question does not refer to the people you live with*)

	a. family	b. friends or acquaint.
daily or almost daily	<input type="checkbox"/> 1	<input type="checkbox"/> 1
1 or 2 times a week	<input type="checkbox"/> 2	<input type="checkbox"/> 2
1 or 2 times a month	<input type="checkbox"/> 3	<input type="checkbox"/> 3
less	<input type="checkbox"/> 4	<input type="checkbox"/> 4
never	<input type="checkbox"/> 5	<input type="checkbox"/> 5

Question 80 is only put to persons who do not cohabit with other adults.

80.

If you should suddenly get sick, e.g. from influenza, and need help, can you then count on getting help from others? With this I mean practical problems such as looking after children, shopping etc.

- yes, from family I do not live with 1
- yes, from friends and acquaintances 2
- yes, from people in the village or the town 3
- no..... 4

81.

Are you ever alone although you would rather be together with others?

- no** 1
- yes, but not so often 2
- yes, sometimes 3
- yes, often 4

82.

Do you sometimes miss being on your own

- no 1
- yes, but not often 2
- yes, sometimes 3
- yes, often 4

83.

Do you find your relationship with other people in your village/town satisfactory?

- yes, none or only few problems 1
- no, not sufficient contact
with other people 2
- no, I have problems with
a few people 3
- no, I have problems with
many people 4

Lb. no: _____

questionnaire: PCB.ivaag3.eng

ID#: _____



**KALAALLIT NUNAANNI MEEQQANIK MISISSUINEQ
IVAAG**

Interview at 6,5 months

Date of interview: _____

Interviewer: _____

Issittumi Peqqissusermik Ilisimatusarfik – Nuuk, København, Aarhus

BACKGROUND INFORMATION

1.

Before we start, please tell me: did you get a girl or a boy?

Boy 1

Girl 2

What date did you give birth? _____

2.

How would you describe your birth? As:

a. A good experience 1

b. An all right experience 2

c. A bad experience 3

d. Don't know 4

If you answered b, c or d – was it because of

Birth pains 1

The duration of the labour (*did the labour seem long to you?*) 2

Problems with you or the baby during labour 3

Problems with you or the baby after birth 4

Other? _____

3.

Are you?

Unmarried (=never married) 1

Married 2 → proceed to quest. 5

Separated, divorced 3

Widow 4

4.

Do you have a steady partner but are not married?

Yes 1

No 2

5.

Do you live with the child's biological father?

Yes 1

No 2

If no, with whom then?

Am a single parent 1

With another partner 2

Others? _____ 3

6.

Are you working at the moment?

Yes 1 → proceed to quest. 7

No 2

If No: why not?

Student 1

Leave/maternity leave 2

Looking for work 3

Housewife 4

Early retirement pensions 5

Sick leave 6

Other _____ 7

Proceed to question 15

7.

What is your position? (*please be specific: assistant at the hospital – not just "work at the hospital". Shop assistant in KNI – not just "work at the store"*)

What is the position of your partner?

8.

How old was the baby when you started working again?

Age:

Days: _____

Weeks: _____

Months: _____

9.

How many hours a week do you work?

Hours: _____

10.

How is the rate of work or the work pressure at your work?

Much too high 1

A little too high 2

Reasonable 3

A little too low 4

Much too low 5

11.

How much influence do you normally have over the planning of your work?

- Much influence 1
Some influence 2
Very little influence 3
No influence 4

12.

Do you feel that your normal day is stressing?

- Yes, most of the time 1
Yes, sometimes 2
No, almost never 3
Don't know 4

HOUSING DETAILS

13.

Did you move since the last interview?

- Ja 1
Nej 2

If no, proceed to question 17

14.

How do you live?

- Rented residence 1
Multi-ownership scheme 2
Own residence 3
Live with parents 4
Without permanent residence (live with friends temporarily) 5

15.

How many rooms are there in your residence? (kitchen, bathroom, hall etc. should not be included in the number)

16.
How many people live in the residence?
Adults: _____
Children from 0 to 5 years: _____
Children from 6 to 17 years: _____

DIET - BREAST-FEEDING - THE BABY
The next questions are about the breast-feeding period and your baby's diet.

17.
Do you breast-feed the baby?

Yes 1

No, but have done so previously 2 → proceed to quest. 22

Have never breast-feed 3 → proceed to quest. 24

If Yes: how often?: _____

18.
How long have you breast-feed the baby totally - i.e. without feeding it anything else than water and vitamins?

Breast-feeding alone in No. of months.: _____ and weeks: _____

Breast-feeding alone in No. of weeks: _____

Breast-feeding alone in No. of days: _____

Don't know 98

Continued breast-feeding alone - proceed to quest. 24

19.
How old was the baby when you stopped breast-feeding altogether?

Age when stopped:

Days: _____

Weeks: _____

Months: _____

20.

Has the baby been fed-breast milk substitute?

Yes 1

No 2 → proceed to quest. 21

If yes: How old was the baby when it started?

Days: _____

Weeks: _____

Months: _____

Has the baby been fed with it:

Every day 1

A few times 2

Don't know 3

Which brand of breast milk substitute? _____

How many ml/24 hours? _____

21.

Has the baby been fed powdered gruel?

Yes 1

No 2 → proceed to quest. 22

If Yes: How old was the baby when it started?

Age:

Days: _____

Weeks: _____

Months: _____

Did you follow recommendations from the visiting nurse, others or your own judgment? _____

22.

Does the baby get ordinary milk now?

- Yes, to drink 1
Yes, in mash or gruel 2
No 3 → proceed to quest. 23

If Yes: How old was the baby when you started giving it milk?

Age:

Days: _____

Weeks: _____

Months: _____

23.

Do you feed the baby other dairy products? (e.g. yoghurt, junket, cultura or butter)

- Yes 1
No 2 → Proceed to quest. 24

If Yes: Which? _____

Does the baby get it?

- Every day 1
Several times a day 2
Less frequently 3

24.

When did the baby start eating with a spoon e.g. porridge or mash?

- Not started 1 → Proceed to quest. 25

Months: _____

Weeks: _____

If yes: what?

- Mashed potatoes 1
Other vegetable mash 2
Fruit butter 3
Porridge (e.g. millet porridge, rice porridge) 4
Other _____ 5

25.

Does the baby get anything else to eat? (e.g. suasaat, ryebread, fruit, fish, ship biscuit, candy or anything else?)

Yes 1

No 2 → Proceed to quest. 26

If yes: what?

26.

Does the baby get ACD (vitamin) drops?

Yes 1

No 2

If Yes:

Daily 1

Frequently 2

Seldom 3

27.

Does the baby get iron drops (Glycifer drops)?

Yes 1

No 2

THE FOLLOWING QUESTIONS ARE ABOUT YOUR BABY'S TEETH

28.

Has the baby had any teeth?

Yes 1

No 2 → Proceed to quest. 30

29.

Have you started brushing the baby's teeth?

Yes 1

No..... 2

MEDICINE - BABY'S ILLNESSES

The following questions are about your baby's illnesses

30.

Has your baby ever had/been?

	<u>Age:</u>		<u>Number of times</u>
	Yes	No	<i>in weeks</i>
a. Fever.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
b. Cold.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
c. Inflammation of the eyes.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
d. Earache (<i>flydeører</i>).....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
e. Colics.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
f. Indigestion/constipation.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
g. Vomiting/Diarrhoea	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
h. Diaper rash (<i>red and irritated skin</i>)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
i. Eczema (<i>asthmatic (red and dry skin)</i>)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
j. Other kinds of rash.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
k. Thrush (candidacies of the oral mucosa).....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
l. Inflammation of the middle ear.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
m. Bronchitis.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
n. Asthma/asthmatic bronchitis.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
o. Pneumonia.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
p. Fever cramps	<input type="checkbox"/> 1	<input type="checkbox"/> 2	_____
q. Other, what?_____			_____

About age: this applies to the time the baby had the illness.

31.

Did you contact a doctor when the baby had any of the "listed illnesses"?

Yes 1

No 2 → Proceed to quest. 32

If Yes: which?

a. Illness: _____ **treatment:** _____ **age:** _____

b. Illness: _____ **treatment:** _____ **age:** _____

c. Illness: _____ **treatment:** _____ **age:** _____

d. Illness: _____ **treatment:** _____ **age:** _____

e. Illness: _____ **treatment:** _____ **age:** _____

f. Illness: _____ **treatment:** _____ **age:** _____

g. Illness: _____ **treatment:** _____ **age:** _____

h. Illness: _____ **treatment:** _____ **age:** _____

i. Illness: _____ **treatment:** _____ **age:** _____

Other? _____

32.

Has the baby ever been hospitalised due to illness?

Yes 1

No 2

If Yes: with what?

Illness: _____

Illness: _____

Illness: _____

33.

Is your baby on any medication at the moment?

Yes 1

No..... 2

If Yes:

Is it a permanent medication?

Yes 1

No..... 2

What is the name of the medicine _____

When did he/she start? _____

When did he/she last get it? **date:** _____ **hour:** _____

CHILD CARE

34.

Is the baby in day-care outside the home?

Yes 1

No..... 2 → Proceed to quest. 36

If Yes: where

Day nursery 1

Private day-care..... 2

With family/friends 3

Foster-family 4

Other _____ 5

35.

How old was the baby when he/she began in day-care outside the home?

Days: _____

Weeks: _____

Months: _____

MOTHER'S HEALTH

36.

How do you rate your health?

- Very good 1
Good 2
Fair 3
Poor 4
Very poor 5

MOTHER'S MEDICATION

37.

Have you been on any medication while you have been breast-feeding your baby?

- Yes 1.
No 2

If Yes: What was the name of the medicine?

- a. _____
b. _____
c. _____

38.

Why were you on that medication?

Name of illness: _____
Name of illness: _____
Name of illness: _____

39.

How old was the baby when you were on medication?

Baby's age.

Name of medicine: _____ days: _____ weeks: _____ months: _
Name of medicine: _____ days: _____ weeks: _____ months: _
Name of medicine: _____ days: _____ weeks: _____ months: _

*Questions concerning alcohol or smoking are not asked participants in PCB-ivaaq.
Proceed to question 54*

SMOKING

40.

Does anybody smoke in your home?

Yes 1

No..... 2

Parents smoking under the cooker hood should be marked as a yes.

41.

Do you smoke?

Yes, on a daily basis..... 1

Yes, but there are days when I do not smoke..... 2

No..... 3

42.

Are you an ex-smokers?

Yes, I quit within the past six month 1

Yes, I quit long time ago 2

when (year)_____

No 3

43.

How many people smoke in your home on an ordinary day? (including yourself)_____

44.

Have your been smoking while breast-feeding?

Yes 1

No..... 2

If yes: how much did/do you smoke a day while breast-feeding?

a. Number of cigarettes a day_____

b. Number of ceruttles, cigars, pipes a day_____

45.

Do you smoke more or less than before your baby was born?

I have quit completely 1

I smoke less 2

It is the same 3

I smoke more 4

I did not smoke before giving birth 5

ALCOHOL

To question No.46 is asked about partying in general

46.

Do you party?

Yes 1

No 2

Don't know 3

47.

How often do you party now?

3-6 times a week 1

1-2 times a week 2

1-3 times a month 3

Not so often 4

48.

What do you drink at parties?

	Yes	No
Beer	<input type="checkbox"/> 1	<input type="checkbox"/> 2
Wine	<input type="checkbox"/> 1	<input type="checkbox"/> 2
Hard liquor	<input type="checkbox"/> 1	<input type="checkbox"/> 2

49.

How many drinks do you think you have at parties?

- Less than 5 drinks 1
5 drinks or more 2
Don't know 3

50.

Have you been partying while breast-feeding?

- Yes 1
No 2

51.

How often did you party while breast-feeding?

- 3-6 times a week 1
1-2 times a week 2
1-3 times a month 3
Not so often 4

52.

What did you drink at a party while breast-feeding?

- | | Yes | No |
|-------------------|----------------------------|----------------------------|
| Beer | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| Wine | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| Hard liquor | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |

53.

How many drinks do you think you had at parties while breast-feeding?

- Less than 5 drinks 1
5 or more drinks 2
Don't know 3

PHYSICAL ACTIVITY

54.

What does best describe your physical activity in your spare time now that you have given birth?

SHOW CARD NO. 2

- a. Read, watch TV or other sedentary activities 1
- b. Light exercise at least 4 hours a week (e.g. walking while shopping or to and from work, or light house chores)..... 2
- c. Occasional exercise e.g. sports..... 3
- d. Exercise, go hunting or have other physically demanding activities in my spare time at least 4 hours a week 4
- e. Exercise and workout at least 4 hours a week..... 5

Question 55 is put only to persons not cohabitating with other adults.

55.

If you suddenly were to get sick, e.g. from influenza and needed help, could you then count on getting it from others? By this I mean help with practical problems such as taking care of the children, shopping etc.?

- | | Yes | No |
|---|----------------------------|----------------------------|
| Yes, from family I don't live with | <input type="checkbox"/> 1 | <input type="checkbox"/> 1 |
| Yes, from friends and acquaintances | <input type="checkbox"/> 2 | <input type="checkbox"/> 2 |
| Yes, from other people in the town or village | <input type="checkbox"/> 3 | <input type="checkbox"/> 3 |

56.

Which of the following things mean most to you in your life?

SHOW CARD NO. 3

(Max. 3 answers)

- a. A steady job 1
- b. Good family relations 1
- c. Good mental health 1
- d. Good housing conditions 1
- e. Good physical health 1
- f. Good contact with family and friends 1
- g. Plenty of spare time 1
- h. Good economy 1
- i. Good possibility to go hunting or fishing, sailing
and nature experiences 1

57.

Are you ever alone, even when you feel like being with others?

- No 1
- Yes, but not so often 2
- Yes, now and then 3
- Yes, often 4

58.

Do you sometimes miss being more on your own?

- No 1
- Yes, but seldom 2
- Yes, now and then 3
- Yes, often 4

**THE FOLLOWING QUESTIONS ARE ABOUT WHAT YOUR
BABY CAN DO RIGHT NOW.**

59.

Can the baby hold its own head when lifted up?

- Yes 1
No..... 2
Don't know 3

60.

Can it sit up straight when sitting on your lap?

- Yes 1
Yes, with a little help 2
No..... 3
Don't know 4

61.

Can it roll from back to stomach position?

- Yes 1
No..... 2
Don't know 3

62.

Can it sit alone on the floor without tilting?

- Yes 1
No..... 2
Don't know 3

63.

Does it react to new sounds or voices?

- Yes 1
No..... 2
Don't know 3

64.

Does the baby drop toys on the floor?

Yes 1

No..... 2

Don't know 3

65.

Does the baby play by making noises when lying by itself?

Yes 1

No..... 2

Don't know 3

66.

Does the baby try to copy the sound when you talk to it?

Yes 1

No..... 2

Don't know 3

67.

Does the baby try to get hold of thing just beyond its reach?

Yes 1

No..... 2

Don't know 3

68.

Does the baby move about on the floor?

Yes 1

No..... 2

Don't know 3

69.

Can the baby show that it wants to contact you by reaching out or by making little noises?

Yes 1

No..... 2

Don't know 3

70.

Does the baby show that there are things it does not like apart from hunger or pain?

Yes 1

No..... 2

Don't know 3

71.

Does the baby put toys in its mouth?

Yes 1

No..... 2

Don't know 3

72.

Does the baby enjoy being thrown into the air?

Yes 1

No..... 2

Don't know 3

MOTHER - CHILD RELATIONS

73.

Hava you and your baby had any of the following problems?

<i>Was it because:</i>	Yes	No
1. Breast-feeding problems	<input type="checkbox"/> 1	<input type="checkbox"/> 2
2. The baby does not eat properly	<input type="checkbox"/> 1	<input type="checkbox"/> 2
3. The baby does not sleep at night	<input type="checkbox"/> 1	<input type="checkbox"/> 2
4. Illness/handicap of the baby	<input type="checkbox"/> 1	<input type="checkbox"/> 2
5. Difficult/restless baby (not due to illness of handicap)...	<input type="checkbox"/> 1	<input type="checkbox"/> 2
6. Medical illness/handicap of the mother	<input type="checkbox"/> 1	<input type="checkbox"/> 2
7. Mental illness of the mother	<input type="checkbox"/> 1	<input type="checkbox"/> 2
8. General feeling of fatigue, lack of energy of the mother	<input type="checkbox"/> 1	<input type="checkbox"/> 2
9. Insecurity as to how the baby should be cared for	<input type="checkbox"/> 1	<input type="checkbox"/> 2
10. Other _____		

74.

Have you talked to someone about it?

Yes	<input type="checkbox"/> 1
No	<input type="checkbox"/> 2
<i>If yes: to whom?</i>	
The baby's father/your partner	<input type="checkbox"/> 1
Your parents	<input type="checkbox"/> 2
Other family/friends	<input type="checkbox"/> 3
Visiting nurse	<input type="checkbox"/> 4
Others _____	5

75.

Have you been stressed by any of the things I mention now after giving birth?

(one cross per column)

	no	a little	very
Economy	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
Housing situation	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
Work situation	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
Relationship with your partner	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
Relationship with family and friends	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
Partner's illness	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
Own illness	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
Other, what _____			

76.

How have you generally been feeling mentally since giving birth?

Very good.....	<input type="checkbox"/> 1
Good.....	<input type="checkbox"/> 2
Fair	<input type="checkbox"/> 3
Poor	<input type="checkbox"/> 4
Very poor	<input type="checkbox"/> 5

Visiting nurse

77.

Have you had a visit from the visiting nurse?

Yes	<input type="checkbox"/> 1
No.....	<input type="checkbox"/> 2

If yes: How many times? _____

The first questions focus on how you have felt the last few weeks. Don't think too much about each question, just tick the answer which seems to fit your situation.

1.
In the last few weeks, have you been able to concentrate on what you were doing?

Yes, better than usual..... 1

As usual..... 2

No, not as well as usual..... 3

No, not nearly as well as usual..... 4

2.
In the last few weeks, have you worried so much that you have had sleeping problems?

No, not at all..... 1

No more than usual..... 2

Yes, more than usual..... 3

Yes, much more than usual..... 4

3.
In the last few weeks, have you felt that your life was important?

Yes, more than usual..... 1

No more than usual..... 2

No, less than usual..... 3

No, far less than usual..... 4

4.
In the last few weeks, have you found it easy to make decisions?

Yes, easier than usual..... 1

As usual..... 2

No, it has been more difficult than usual..... 3

No, it has been much more difficult than usual..... 4

5.

In the last few weeks, have you felt under constant pressure?

No, not at all..... 1

No more than usual..... 2

Yes, more than usual..... 3

Yes, much more than usual..... 4

6.

In the last few weeks, have you found it difficult to cope with your problems?

No, not at all..... 1

No more than usual..... 2

Yes, more than usual..... 3

Yes, much more than usual..... 4

7.

In the last few weeks, have you been pleased with daily life?

Yes, more than usual..... 1

As usual..... 2

No, less than usual..... 3

No, much less than usual..... 4

8.

In the last few weeks, have you been able to face your problems?

Yes, better than usual..... 1

As usual..... 2

No, not so well as usual..... 3

No, not nearly as well as usual..... 4

9.

In the last few weeks, have you felt sad or depressed?

No, not at all..... 1

No more than usual..... 2

Yes, more than usual..... 3

Yes, much more than usual..... 4

10.

In the last few weeks, have you felt that you lacked confidence?

No, not at all..... 1

No more than usual..... 2

Yes, more than usual..... 3

Yes, much more than usual..... 4

11.

In the last few weeks, have you felt that you couldn't do anything right?

No, not at all..... 1

No more than usual..... 2

Yes, more than usual..... 3

Yes, much more than usual..... 4

12.

In the last few weeks, have you felt fairly happy and pleased?

Yes, more than usual..... 1

As usual..... 2

No, less than usual..... 3

No, much less than usual..... 4

13.

Has any of your friends or relatives committed suicide?

No..... 1

Yes..... 2

If yes:

Did it happen within the last year?

Yes..... 1

No..... 2

14.

Have you ever seriously considered committing suicide?

No..... 1

Yes..... 2

If yes:

Was it within the last year?

Yes..... 1

No..... 2

15.

Have you talked to anyone about these thoughts? (You may tick more than one box)

No..... 1

Yes, my family..... 2

Yes, friends..... 3

Yes, the vicar..... 4

Yes, the doctor or other medical staff..... 5

Yes, someone else..... 6

The next questions are about violence and sexual abuse

16.

Have you, after you grew up, ever experienced one or more of the following kinds of violence or threats? (You may tick more than one box)

- | | | | |
|---|--------------------------|---------------------------|---|
| No..... | <input type="checkbox"/> | | 1 |
| Yes..... | <input type="checkbox"/> | | 2 |
| | Yes | Within the last 12 months | |
| 1. pushed, shaken or hit superficially by hand | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. kicked, hit with fist or object..... | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. thrown against furniture, wall, down stairs or similar violence..... | <input type="checkbox"/> | <input type="checkbox"/> | |
| d. severe violence such as attempted strangeling, assault with knife or firearm | <input type="checkbox"/> | <input type="checkbox"/> | |
| e. other type of violence_____ | | 5 | |
| f. threats so serious that you were frightened | <input type="checkbox"/> | <input type="checkbox"/> | |

If yes:

Who threatened you or committed violence? (You may tick more than one box)

- | | | | |
|------------------------------------|--------------------------|--------------------------|--------------------------|
| 1. husband/boyfriend..... | <input type="checkbox"/> | | <input type="checkbox"/> |
| 2. other member of the family..... | <input type="checkbox"/> | | <input type="checkbox"/> |
| 3. a friend..... | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4. someone else..... | <input type="checkbox"/> | <input type="checkbox"/> | |

17.

Have you ever been forced to have sex?

Yes..... 1

No..... 2

If yes:

when you were a child (under 13)..... 1

as an adult..... 2

(you may tick both boxes)

Who forced you? (you may tick more boxes)

husband/boyfriend..... 1

father..... 2

stepfather..... 3

other member of the family..... 4

an acquaintance..... 5

someone else..... 6

The next questions are about your alcohol consumption

18.

Does your husband/boyfriend drink beer, wine or liquor?

every day or nearly every day..... 1

3-6 times a week..... 2

once or twice a week..... 3

1-3 times a month, but not every week..... 4

not so often..... 5

never..... 6

I do not have a husband/boyfriend..... 7

19.

Do you drink beer, wine or liquor?

- every day or nearly every day..... 1
- 3-6 times a week..... 2
- once or twice a week..... 3
- 1-3 times a week..... 4
- not so often..... 5
- never..... 6

If you never drink beer, wine or liquor, you may proceed to question 22.

20.

When did you last have beer, a glass of wine or a glass of liquor?

- Today or yesterday..... 1
- During the last week..... 2
- During the last month..... 3
- More than a month ago..... 4

21.

How much did you drink at the time?

- 1 beer or glass of wine or liquor..... 1
- 2-5 beers or glasses of wine or liquor..... 2
- 6-10 beers or glasses of wine or liquor..... 3
- More than 10 beers or glasses of wine or liquor... 4

22.

In the last 12 months, have you experienced any of the following situations, either because of your own alcohol consumption or because of alcohol consumption in your immediate family (husband/boyfriend, children, parents)?

- | | Yes | No |
|--|----------------------------|----------------------------|
| Argument in the family..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| Health problems..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| Lack of money..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| You lost your job..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| Suffered an injury or accidentally injured others... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| Suffered an injury or injured others in a fight..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| Have found it difficult to turn up for work..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| Have reported sick..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |

23.

Has anyone in your immediate family had problems because of alcohol?

- Yes..... 1
- No..... 2

24.

Was alcohol a problem in the home where you grew up?

- Yes, often..... 1
- Yes, sometimes..... 2
- No, never..... 3

25.

Have you ever tried to smoke hash or marihuana?

- No, never..... 1
- Yes, once or a few times..... 2
- Yes, often..... 3

26.

Which do you find more harmful, hash, marihuana, alcohol or smoking?

(you may tick more than one box)

Hash and marihuana..... 1

Alcohol..... 2

Smoking..... 3

If you have never smoked hash, you may proceed to question 31

27.

When did you last smoke hash or marihuana?

Today or yesterday..... 1

During the last week..... 2

During the last month..... 3

More than a month ago..... 4

28.

Have you smoked hash after you became pregnant?

Yes..... 1

No..... 2

If yes, when? (state week of pregnancy or interval)

In pregnancy week(s): _____

29.

How often have you smoked hash while you have been pregnant?

Every day or nearly every day..... 1

Several times a week..... 2

About once a week..... 3

Not so often..... 4

30.

Have you used other similar drugs while you have been pregnant?

Yes..... 1

No..... 2

If yes, which?

The next question is about your sexual habits

31.

How many sexual partners have you had during the last year?

1..... 2

2-4..... 3

5 or more..... 4

Thank you for participating in the survey.

Appendix 2.

Laboratory procedures¹

Analyses of organochlorines (OCs), Hg, lead, and Se were performed at the laboratory of the Centre de Toxicologie du Québec, which is accredited by the Canadian Association for Environmental Analytical Laboratories. Blood samples containing EDTA as the anticoagulant were centrifuged and the plasma was collected in glass vials prewashed with hexane. Plasma samples were stored at -80°C until shipment. A 1:1:3 mixture of ammonium sulfate:ethanol:hexane was first added to the plasma to extract OCs. The extracts were then concentrated and purified on two Florisil columns (60100 mesh; Fisher Scientific, Nepean, Ontario, Canada). The 14 most prevalent PCB congeners (IUPAC nos. 28, 52, 99, 101, 105, 118, 128, 138, 153, 156, 170, 180, 183, and 187) and 11 chlorinated pesticides or their metabolites [aldrin, alpha-chlordane, gamma-chlordane, p,p'-dichlorodiphenyltrichloroethane (DDT), p,p'-dichlorodiphenyldichloroethene (DDE), hexachlorobenzene (HCB), beta-hexachlorocyclohexane (HCH), mirex, cisnonachlor, trans-nonachlor, oxychlordane] were measured in the purified extracts with an HP 5890 high-resolution gas chromatograph equipped with dual-capillary columns (HP Ultra I and Ultra II) and dual Ni-63 electron capture detectors (Hewlett-Packard, Palo Alto, CA, USA). Quality control procedures were described previously (1). Percent recovery ranged from 89% to 100%, and the detection limit was approximately 0.02 µg/L for all compounds. Coefficients of variation (n = 20, different days) ranged from 2.1% to 9.1%. Biases, the difference between the concentration of the reference material and the concentration found using the analytic method, ranged from 10.9% to 3.8%.

The same OCs were measured in milk samples using a similar procedure. Compounds were initially extracted from milk using a mixture of acetone/hexane, followed by a second extraction with hexane alone. Combined organic phases were washed with deionised water, concentrated, and purified on activated Florisil columns. A mixture of dichloromethane/hexane was used to elute the compounds, which were separated and quantified by HRGC as described above. Detection limits vary from 0.6 to 2.0 µg/kg lipids for the various OCs. We used two certified milk reference materials (CRM 188 and 450) to assess precision and accuracy of the method. Coefficients of variation varied from 10% to 20% and biases from 5% to 15%, depending on the specific organochlorine. Because OCs distribute mainly in body fat, concentrations in plasma and milk samples are reported in micrograms per kilogram of lipids.

We measured total cholesterol, free cholesterol, and triglycerides in plasma samples by standard enzymatic procedures, but determined phospholipids according to the enzymatic method of Takayama et al. (2), using a commercial kit (Wako Pure Chemical Industries, Richmond, VA, USA). We estimated the concentration of total plasma lipids according to the formula developed by Phillips et al. (3). We weighed an aliquot of the milk fat extract to determine the concentration of lipids in milk samples.

We determined total mercury concentrations in samples of cord and maternal blood and maternal hair by cold vapor atomic absorption spectrometry. Samples were digested with

¹ Adapted from Muckle G, Ayotte P, Dewailly E, Jacobson SW, Jacobson JL. Prenatal exposure of the northern Québec Inuit infants to environmental contaminants. *Environ Health Perspect* 2001; 109:1291-1299

nitric acid and mercury was reduced by adding anhydrous stannous chloride (SnCl_2) and cadmium chloride (CdCl_2). Metallic mercury was volatilized and detected by atomic absorption spectrometry (Model 120; Pharmacia, Piscataway, NJ, USA). The detection limit for blood mercury analysis was 1.0 nmol/L. Quality control procedures were described previously (1). Coefficients of variation ($n = 50$, different days) at levels of 40 and 90 nmol/L (in-house reference materials) were 5% and 5.5%, respectively. Relative biases were 2.4% and 0.4%, respectively. The detection limit for hair mercury analysis was 1 nmol/g. We obtained accuracy and precision data using certified reference material through Health Canada's hair mercury inter-laboratory comparison program. Coefficients of variation ($n = 50$, different days) were 4.8% for the 12.3 $\mu\text{g/g}$ reference specimen (CRM 397) (4) and 4.3% for the 4.42 $\mu\text{g/g}$ reference specimen (CRM 13) (5). The relative biases were 2.2% and +1.9%, respectively.

We diluted an aliquot of whole blood with a mixture of nitric acid, ammonium phosphate, and Triton X-100 and analysed it for lead by graphite furnace atomic absorption with Zeeman background correction (model ZL 4100; Perkin Elmer, Norwalk, CT, USA). The detection limit of the method is 50 nmol/L. We used four reference specimens of 2.8, 2.1, 1.2, and 0.3 $\mu\text{mol/L}$ to calibrate the analytic method for lead; the corresponding coefficients of variation were 2.4%, 2.9%, 2.3%, and 5.0%, and relative biases were +2.0%, +2.2%, 0.8%, and 0.2%, respectively ($n=10$).

We determined blood Se concentrations with inductively coupled plasma mass spectrometry (ICP-MS) using state-of-the-art instrumentation (PE Elan 6000; Perkin Elmer). Samples were diluted and aspirated into the instrument. We performed matrix matched calibration using a pool of normal blood. We obtained accuracy and precision data using reference material from our ICP-MS comparison program. The detection limit was 0.1 $\mu\text{mol/L}$. The coefficient of variation ($n = 37$, different days) at a level of 2.7 $\mu\text{mol/L}$ was 5.9%, and the bias was 0.4%.

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