



SMOKING *and* PREGNANCY

A Peel Health Status Report – September 2003



 Region of Peel
Working for you
Peel Health

INTRODUCTION

Smoking in pregnancy has many adverse effects to the fetus and resultant newborn. These include: low birthweight, prematurity and intra uterine growth retardation (IUGR). In addition, a baby's exposure to second hand smoke has been associated with developing pneumonia and bronchitis, lung disease and sudden infant death syndrome (SIDS).

One of the objectives of the Healthy Babies Healthy Children (HBHC) program, introduced in January 1998 by the Ontario Ministry of Health and Long-Term Care, is to screen all new mothers who have given birth in hospital in order to determine if they are at risk for adverse outcomes. The Parkyn screening form is used as a tool to screen new mothers.

This universal tool, used by hospitals and midwives, successfully screens (with mothers' consent) all newborns to assess their risk of poor health outcomes after birth. The results of this postpartum screen are then forwarded, at discharge, to the Health Department for follow-up with the family, including, when indicated, the introduction of early and appropriate interventions and other service to reduce risk. All mothers receive a telephone call from a Public Health Nurse (PHN) within 48 hours of hospital discharge.

In May and June 2002, a joint study on pregnancy and smoking, co-ordinated by the University of Toronto was conducted with the Region of Peel Health Department, Toronto Public Health and York Region Health Services. The 2002 study is a follow up to the 2001 study conducted in the Region of Peel, the City of Toronto and Durham Region.

The objectives of the 2002 study were similar to that of the 2001 study:

- to describe smoking prevalence in pregnant women;
- to describe factors associated with smoking during pregnancy;
- to evaluate the accuracy of the Parkyn form in assigning low birth weight codes and maternal age group codes.

In addition, the 2002 study was conducted:

- to compare 2001 and 2002 results to see if there were any significant changes in smoking status by pregnancy period or factors associated with smoking during pregnancy;
- to increase the sample size of women that intended to quit or successfully quit at the time of the survey.

METHODS

Currently, all mothers in the Province of Ontario who deliver a baby at an Ontario hospital are assessed upon discharge by hospital nurses using the Parkyn screening form (Appendix A). The screening form is used to identify mothers and babies at high risk and in need of additional support after they leave the hospital. Prior to discharge, hospitals obtain consent from mothers to share this information with the Health Department. If consent is obtained, the hospital faxes the completed Parkyn form to the local Health Department after the mother is discharged. If the residence of the mother is in a different health unit, the form is then faxed to the appropriate health unit. During May and June 2002, PHNs obtained consent from recent Peel mothers to participate in the study.

A structured questionnaire (Appendix B) was used to gather specific information about mothers overall smoking behaviour throughout the pregnancy (includes smoking behaviour between menstrual period and knowledge of pregnancy and overall smoking since the mother found out she was pregnant), smoking behaviour during each trimester and postpartum. In each of these areas, questions were included about the number of cigarettes smoked on a daily basis. One question about quitting smoking, and several demographic indicators; such as education, ethnicity, birthplace of mother and the number of years the mother lived in Canada were also included.

For those mothers who agreed to participate in the study, PHNs in the HBHC Program forwarded the completed survey and Parkyn form to a Clerical staff member for data entry. No personal identifiers were entered into the database.

Women who were excluded from the study include those who:

- refused to participate;
- were unable to be contacted by the PHN (either by telephone or mail);
- were not referred to the health department;
- agreed but could not complete the study during the telephone interview (e.g. baby crying);
- the PHN determined should not be included for personal reasons (e.g. emotional status at the time of the study).

No information was collected from those mothers who were excluded from the study.

During the telephone survey, PHNs offered mothers who tried to quit and / or wished to quit smoking, material (pamphlets or booklets) on smoking cessation strategies and programs. If they were interested, these materials were mailed out or were personally delivered if the mother agreed to a postpartum home visit by a PHN.

There were two distinct differences between the 2001 and 2002 survey methods and data analyses.

- Upon initial examination of the 2002 data there appeared to be 27 mothers who had missing age information. Nine of these 27 missing age records were due to missing date of birth for the mother. The remaining 18 records had missing data for date of birth for the baby. The age of the mother of these 18 records was calculated using a median birth date for the baby of June 1, 2002. This was the approximate mid-date during the study period
- One of the recommendations from the Smoking and Pregnancy Report January 2003¹ was to conduct the study again to enhance the sample for a more detailed analysis of quit rates during pregnancy. The 2001 data file was combined with the 2002 data file to yield a total sample of 961 women, of which 155 smoked at any time during their pregnancy.

Data on the Parkyn form and from the detailed smoking questionnaire were entered into a database using Microsoft® Access 97. Data were analyzed using SPSS version 11.0 and EpiInfo version 6.04d. The study analyses consisted of a comparison of the 2001 and 2002 study sample, a descriptive analysis of smoking status (during all pregnancy periods), an assessment of the accuracy of the Parkyn form in coding birth weight and maternal age, and an analysis of quit rates among women smokers based on the enhanced sample (i.e. combining 2001 and 2002 survey data).

The complete 2001 study results are contained in the Smoking and Pregnancy Report January 2003¹. The current report (Smoking and Pregnancy September 2003) mentions the results from the earlier report where indicated. The results of the earlier report, Smoking and Pregnancy Report January 2003¹ will be referred to, herein using the terms '2001 study' or '2001 data' interchangeably.

¹ Smoking and Pregnancy – A Peel Health Status Report. January 2003.

RESULTS

PARTICIPATION RATES

A total of 889 Parkyn forms were received by the Region of Peel Health Department during May and June 2002. Of these the Peel Health Department was able to contact 560 women and obtain consents for 421 of the women for an overall participation rate of 75%.

RESPONDENT PROFILE

Table 1 compares characteristics of the 2001 and 2002 survey respondents, to mothers from the 1999 Live Birth database for Peel. The respondent characteristics were similar for 2001 and 2002 with two exceptions. A slightly higher proportion of 2002 respondents (1.7%) delivered multiple births compared to respondents in 2001 (0.2%). In addition, the proportion of women who completed university was higher in 2002 compared to 2001 (38.2% and 26.7% respectively). The characteristics of study group women were similar to the profile of women who gave birth from the 1999 live birth database (Table 1).

Table 1
Comparison of Maternal Characteristics between 2001 and 2002 Study
Respondents and Mothers from the 1999 Peel Live Birth Database

Characteristic	Respondents 2001 (n=540)		Respondents 2002 (n=421)		1999 Live Birth Database
	Number	Per cent	Number	Per cent	Per cent
Type of Birth					
Single	539	99.8	414	98.3	97.3
Multiple	1	0.2	7	1.7	2.7
Birthplace of Mother					
Canadian	255	47.2	208	49.4	47.7
Foreign	281	52.0	210	49.9	52.3
Missing	4	0.7	3	0.7	0.0
Age Group					
<19 years	11	2.0	7	1.7	2.5
20-24	69	12.8	43	10.2	12.0
25-29	167	30.9	150	35.6	30.9
30-34	183	33.9	134	31.8	35.3
35-39	84	15.6	62	14.7	16.8
40+ years	12	2.2	16	3.8	2.5
Missing	14	2.6	9	2.1	0.1
Education Level					
Less than high school	41	7.6	30	7.1	NA
High school completed	125	23.1	70	16.6	NA
Some community college	37	6.9	29	6.9	NA
Completed community college/ some university	187	34.6	128	30.4	NA
Completed university	144	26.7	161	38.2	NA
Missing	6	1.1	3	0.7	NA
Language					
English	526	97.4	401	95.2	NA
Other	14	2.6	20	4.8	NA

Source: Live Birth Database, 1999, distributed through HELPS (Health Planning System) by the Ontario Ministry of Health and Long-Term Care.

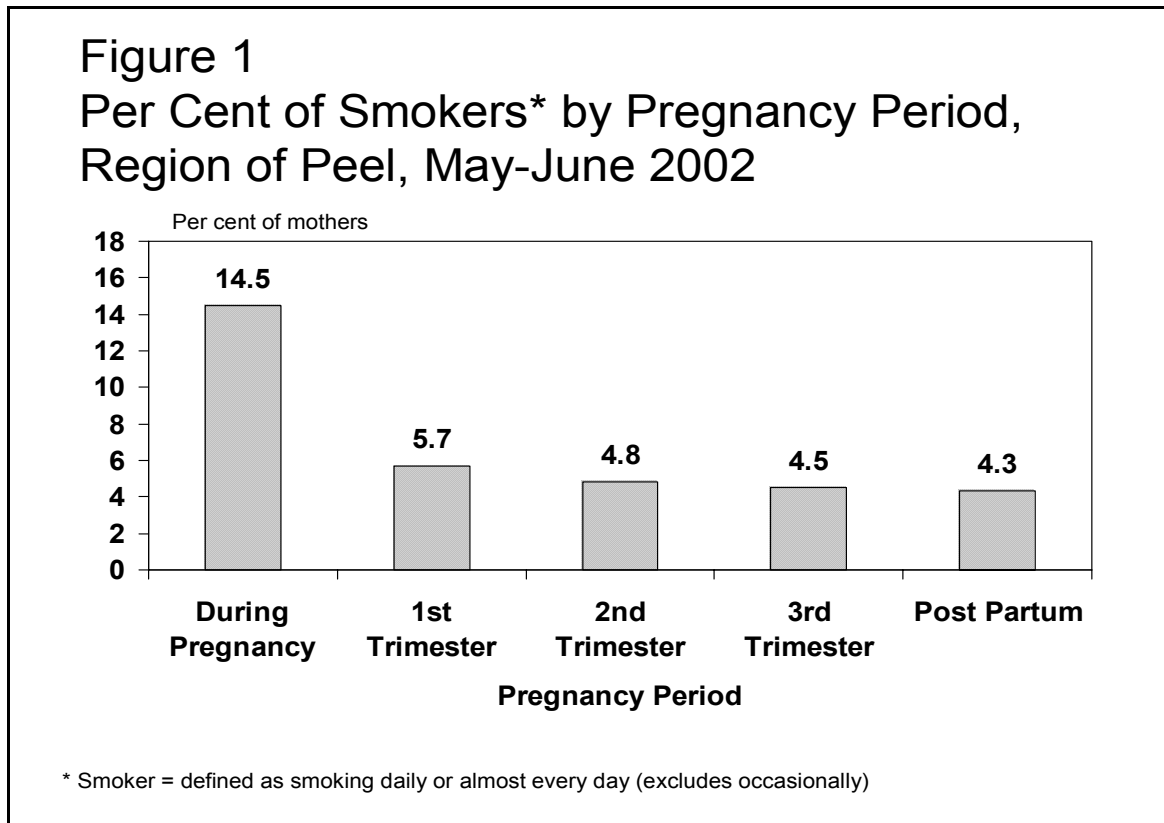
DESCRIPTION OF SMOKING STATUS BY PREGNANCY PERIOD

Smoking during pregnancy was determined by mother’s responses to the following two questions:

- Since you found out you were pregnant, have you smoked more than a few cigarettes? Women who responded “no” to this question were then asked the following question.
- Between your last menstrual period and the time you found out you were pregnant, did you smoke more than a few cigarettes?

The number of women who reported smoking during pregnancy was calculated by combining the positive responses from the two questions described above.

Overall, 14.5% of women reported smoking during pregnancy. A graphical depiction of smoking status by pregnancy period is shown in Figure 1.



During the first trimester, 5.7% of women reported smoking daily or almost daily. Women in this category who smoked daily or almost daily, smoked a mean of 8.8 (median 7.5) cigarettes per day (range 2 – 25 cigarettes).

Approximately 4.8% of women reported smoking daily or almost every day during the second trimester. These women smoked a mean of 8.2 (median 6.0) cigarettes per day (range 2 – 25 cigarettes).

During the third trimester, 4.5% of women reported smoking daily or almost every day. These women smoked a mean of 9.0 (median 6.0) cigarettes per day (range 3 – 25 cigarettes).

At the postpartum stage, 4.3% of women reported smoking daily or almost every day. These women smoked a mean of 7.9 (median 5) cigarettes per day (range 2– 25 cigarettes).

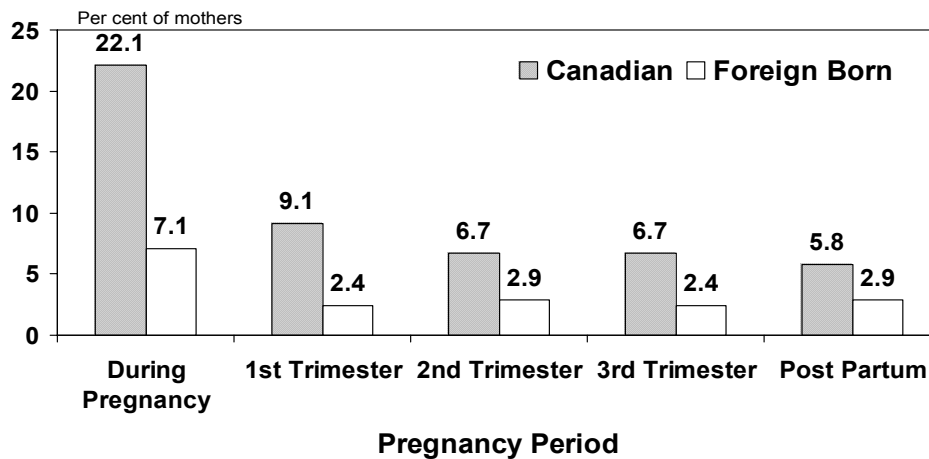
The per cent of smokers during the 2001 study was slightly higher during pregnancy (17.4%) and across all pregnancy periods (over 5%) than during the 2002 study period.

FACTORS ASSOCIATED WITH SMOKING DURING PREGNANCY

Smoking Status by Birthplace of Mother and recent Immigrant Status

Forty-six (22.1%) Canadian born mothers smoked daily or almost every day during their pregnancy in 2002 compared to 15 (7.1%) of foreign-born mothers (Figure 2). This difference was statistically significant (OR=3.69, 95% CI 1.93-7.37). Although higher during pregnancy and during the first trimester (OR=4.12, 95% CI 1.45-14.36), this difference was not statistically significant across remaining pregnancy periods.

Figure 2
Per Cent of Smokers* by Pregnancy Period and Birthplace of Mother, Region of Peel, May-June 2002

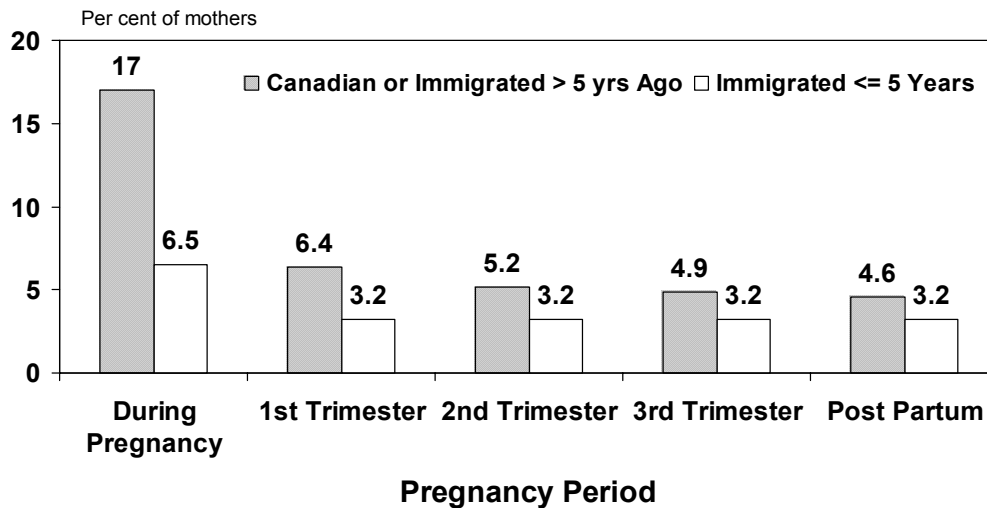


* smoker=defined as smoking daily or almost every day (excludes occasionally)

There was a slight difference in smoking patterns when comparing women who were recent immigrants to Canada (6.5%) to women who were either Canadian born or who had immigrated to Canada more than 5 years ago (17%) (Figure 3). This finding was similar across all pregnancy periods. These differences were not statistically significant.

This finding is different from the 2001 study, which found a noticeable difference in smoking patterns between women who had immigrated more than 5 years ago (or were Canadian born) (20.6%) compared to those women that were recent immigrants (7.1%). In the 2001 study this difference was statistically significant.

Figure 3
Per Cent of Smokers* by Pregnancy Period and Immigrant Status, Region of Peel, May-June 2002

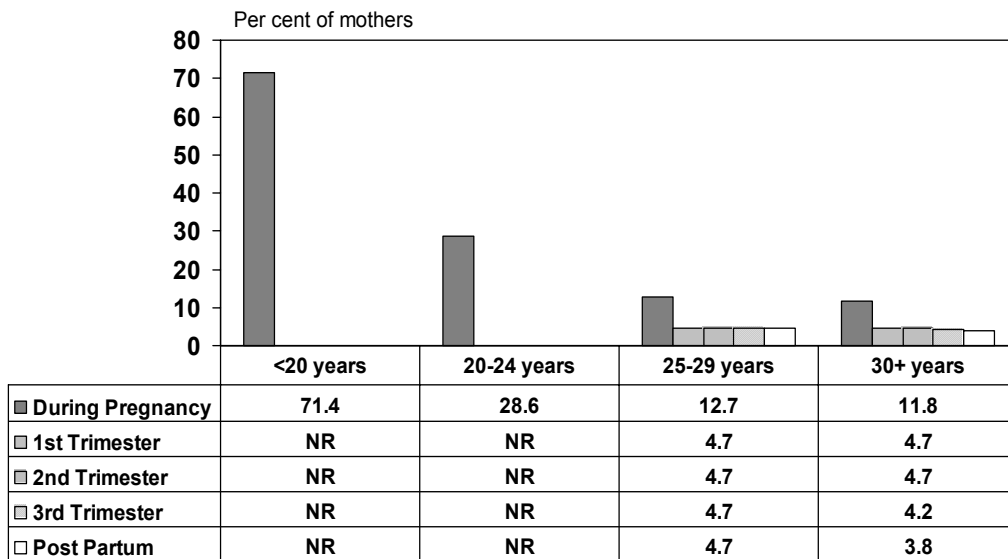


* smoker=defined as smoking daily or almost every day (excludes occasionally)

Smoking Status during Pregnancy by Maternal Age

Rates of smoking during pregnancy were highest among women aged 19 years or younger (71.4%) compared to other age groups (Figure 4). This pattern was also evident in the 2001 study. See Appendix D for the full data table for May-June 2002.

Figure 4
Per Cent of Smokers* by Pregnancy Period and Maternal Age Group, Region of Peel, May-June 2002



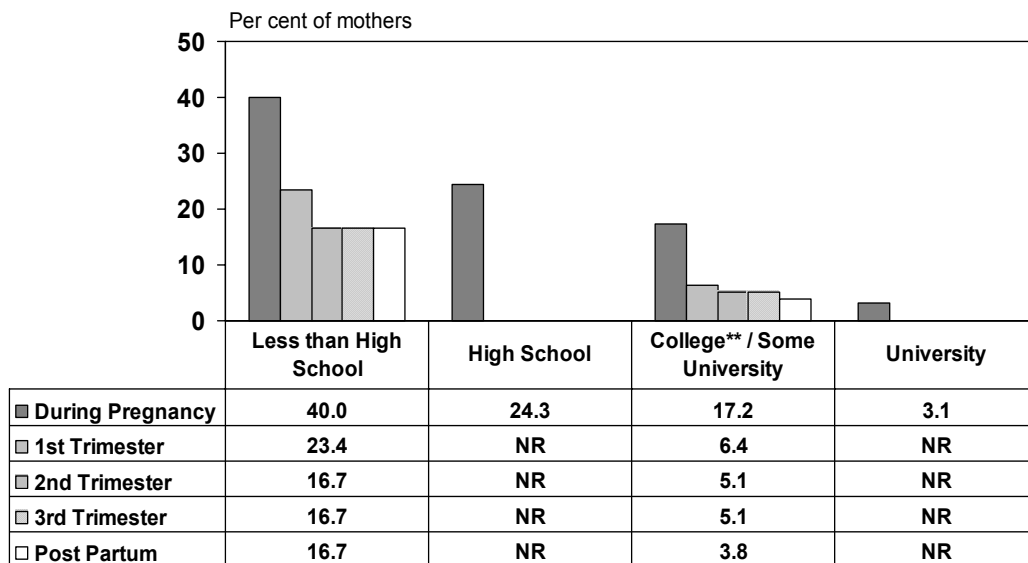
* Smoker=defined as smoking daily or almost every day (excludes occasionally)
 NR=Not releasable (less than five respondents)

Smoking Status by Education Level

Rates of smoking during pregnancy were highest among women with less than high school education (40%) (Figure 5). The rates of smoking declined as education level increased.

The proportion of women smoking postpartum was also highest among women with less than high school education (16.7%). This pattern is similar to that reported in the 2001 study. See Appendix E for the full data table for May-June 2002.

Figure 5
Per Cent of Smokers* by Pregnancy Period and Education Level, Region of Peel, May-June 2002



* Smoker=defined as smoking daily or almost every day (excludes occasionally)

** Includes women who completed some or all of their college education

NR=Not releasable (less than five respondents)

Association Between Parkyn Form Variables and Smoking During Pregnancy

Other variables from the Parkyn form were analyzed to determine whether there were any associations between these variables and smoking during pregnancy. To ensure a large enough sample size, the 2001 and 2002 data for these variables were combined.

The Parkyn variables included:

- Social situation – Categories were defined as a one parent family with adequate support, a one parent family with no support, a two parent family with no support and/or severe isolation or none of the above;
- Financial difficulties – Categories were defined as “yes” or “no”;
- No prenatal care before the sixth month - Categories were defined as “yes” or “no”;
- Complications of pregnancy (infections that can be transmitted in utero and may damage the fetus) - Categories were defined as “yes” or “no”;
- Complications of pregnancy (alcohol or drug abuse diagnosed in mother) – Categories were defined as “yes” or “no”;
- Low birth weight.

Although the proportion of women who reported smoking and who were in a more disadvantaged social situation was higher (25.9%) than women who were not in a disadvantaged social situation (15.5%), this difference was not statistically significant (OR=1.89 95% CI 0.95-3.59).

A significantly higher proportion of women who had financial difficulty reported smoking during pregnancy (36.0%) compared to 15.6% of women without financial difficulties (OR=3.03 95% CI 1.16-7.44).

Almost 27% of women who reported that they received no prenatal care prior to the sixth month of pregnancy smoked during their pregnancy compared to 15.9% of women who did receive care. However, this difference was not statistically significant (OR=1.95 95% CI 0.68-4.95).

The proportion of women who reported smoking during pregnancy was slightly higher among women who had infections during pregnancy (26.7%) compared to women who did not have infections (16.0%). This difference was not statistically significant (OR=1.91 95% CI 0.44-6.54).

Women who had alcohol or drug abuse diagnosed through the Parkyn tool/form were significantly more likely to be smokers (77.8%) compared to women who were not diagnosed with these complications through the Parkyn (15.6%) ((OR=18.94 95% CI 3.54-187.7).

A similar proportion of women who smoked any time during their pregnancy had a low birth weight baby (2.6%) compared to women who did not smoke (2.9%).

QUITTING SMOKING

One of the recommendations of the Smoking and Pregnancy Report January 2003¹ was to conduct the survey again in 2002 to enhance the sample so that more detailed analysis of the quit smoking rates during pregnancy could be determined. This section contains results based on the combined 2001 and 2002 data.

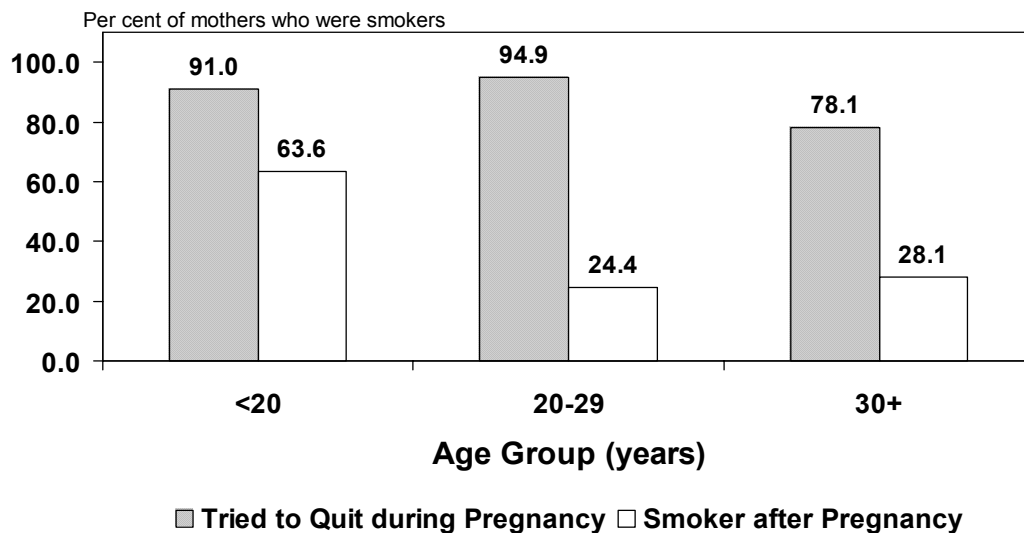
“Trying to quit” was classified as a mother who answered the “tried to quit” question or was successful in quitting some time during her pregnancy. Success at quitting was defined as a mother who was smoke free (did not smoke at all) at the time of the study.

A high proportion of all women who smoked during their pregnancy (87.8%), tried to quit during their pregnancy. Of all the mothers who reported being smokers at the beginning of the study, 67.7% were smoke free at the time of the survey.

The proportion of foreign-born women who tried to quit smoking (93.8%) was slightly higher than the proportion of Canadian born women who tried to quit (85.1%). This difference was not statistically significant (OR=0.40, 95% CI 0.07-1.54). There was also no significant difference between foreign-born and Canadian born women who were successful in quitting (68.8% and 67.3%).

As shown in Figure 6, at least three-quarters of women (Range = 78.1% to 91%) in all age categories tried to quit smoking during their pregnancy. Younger women (ages 19 years or younger) were the least successful at quitting (36.4%) compared to women ages 20-29 (75.6%) and 30 years and older (68.8%). See Appendix F for the full data table for May 2001 and May-June 2002 combined.

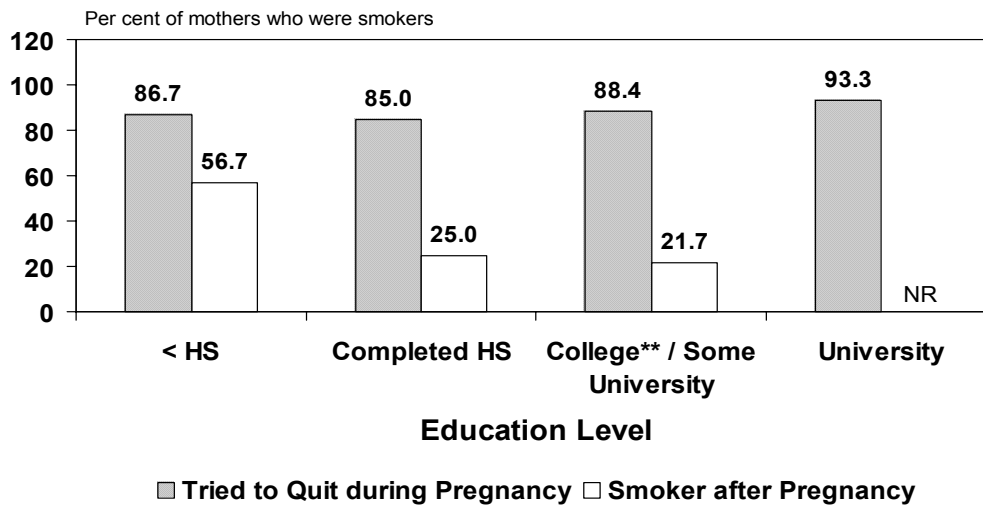
Figure 6
Per Cent of Smokers* who Tried to Quit and Who Smoked at the Time of the Survey by Maternal Age Group, Region of Peel, May 2001 and May-June 2002 Combined



* smoker=defined as smoking daily or almost every day (excludes occasionally)

A high proportion of women across all education levels tried to quit smoking during their pregnancy (85% or greater) (Figure 7); however the proportion of women who were still smoking postpartum, and at the time of the study was higher among women with less than a high school education (56.7%) compared to women with higher levels of education (25% of women who completed high school and 21.7% of women who completed college or some university). For the full data table 2001-2002 combined, see Appendix G.

Figure 7
Per Cent of Smokers* who Tried to Quit and Who Smoked at the Time of the Survey by Education Level, Region of Peel, May 2001 and May-June 2002 Combined



*smoker=defined as smoking daily or almost every day (excludes occasionally)

** Includes women who completed some or all of their college education.

•NR= Not releasable (Less than five respondents)

ASSESSMENT OF THE ACCURACY OF THE PARKYN FORM FOR IDENTIFICATION OF LOW BIRTH WEIGHT AND MATERNAL AGE

In order to ascertain the validity of the Parkyn form in collecting information, several variables were assessed. These included:

- An assessment of the accuracy between the actual birth weight and the birth weight score;
- An assessment of the accuracy between the actual age of the mother and the maternal age score.

Birth Weight

On the Parkyn form, the baby's birth weight is recorded directly. A code is also assigned under section B3 – Development Factors – Low Birth Weight.

The assessment of the assigned birth weight codes revealed the following:

- 409 (97.1%) of birth weights were assigned an appropriate code on the Parkyn form;
- 9 (2.1%) of the forms did not have a birth weight, but were assigned a code on the Parkyn form. In 8 of the 9 cases the code assigned was 0 - not applicable. This code assumes a normal birth weight. One of the 9 cases was coded as normal weight even though the birthweight was unknown.
- An additional 3 (0.7%) of the birth weights were assigned an incorrect code; Coded as a healthy weight >2499 grams when actually between 1500 - 2499 grams.

Age of Mother

On the parkyn form, the mother's date of birth is collected. Section B7 – age of mother on the Parkyn form is where the mother's age is assigned a risk code.

The risk codes are as follows:

- A code of 9= age 15 years and under.
- A code of 8= age 16 or 17 years.
- A code of 5= age 18 or 19 years.
- A code of 0= none of the above.

The assessment of the mothers' age codes revealed the following:

- 411 (97.6%) of mothers were assigned the correct Parkyn code based on their date of birth;
- 9 (2.1%) did not have a date of birth entered on to the form. In all 9 of these cases, the Parkyn code that was assigned was "0 - none of the above". All 9 of these cases had a missing date of birth for the mother. An additional mother had a birth date on the form but was assigned an incorrect code for their age. The mother was assigned age 20+ when she was actually age 19.

DISCUSSION

Characteristics of the respondent of the survey such as age distribution, birth place of mother, and type of birth were similar in 2001 and 2002. These characteristics were also similar to the population of mothers in the Region of Peel in 1999 and it is assumed that the results of this study can be generalized to all Region of Peel mothers.

The response rate for the survey was slightly lower in 2002 (75%) compared to 2001 (80%).

Overall rates of smoking during pregnancy were 14.5%. The overall rate and rates across all pregnancy periods were slightly lower in 2002 compared to 2001.

Smoking rates during pregnancy and during the first trimester were significantly higher among women who were Canadian born than among foreign-born women.

Maternal age and education were also significantly associated with smoking during pregnancy. Younger women and women with less than a high school education exhibited higher smoking rates than other age groups and education levels. The results of the study indicate that these groups were least successful in quitting at the end of the study.

A significantly higher proportion of women who were diagnosed on the Parkyn form as having alcohol or drug abuse were more likely to be smokers than women who were not diagnosed with these problems (2001 and 2002 combined). A significantly higher proportion of women who experienced financial difficulty were more likely to smoke than women who did not experience financial difficulty (2001 and 2002 combined).

There was an association between smoking during pregnancy and being socially disadvantaged, receiving no prenatal care prior to the sixth month of pregnancy and having an infection during pregnancy; however these associations were not statistically significant.

There was no association between smoking during pregnancy and having a low birth weight baby; however this may be due to the small sample size for this analysis.

A high proportion of women (87.8%) who reported being smokers in 2001 and 2002, attempted to quit during their pregnancy and over two-thirds (66.7%) were successful or were smoke free at the time of the survey. Attempts to quit smoking were slightly higher among foreign-born women than among Canadian

born women. Although attempts to quit were high across all age groups, success was higher among women aged 20 years and older.

The assessment of the accuracy of the Parkyn form in identifying low birth weight and maternal age revealed that 2.8% of forms were not coded properly for low birth weight and 2.3% were not properly coded for maternal age.

CONCLUSION

The smoking survey was very useful in describing smoking patterns among women in the Region of Peel at all stages of pregnancy. The increased sample size created by combining the 2001 and 2002 samples elucidated a more meaningful analysis of quit smoking rates. This additional function was also helpful with a more meaningful analysis of the Parkyn form variables.

This study may be repeated in the future to determine any trends in smoking rates among pregnant women.

APPENDIX A: POSTPARTUM SCREENING TOOL



Postpartum Screening Tool
 Healthy Babies, Healthy Children Program
 Tel: (905) 791-7800 Ext. 7401, Fax: (905) 270-7692

For multiple births, complete a form for each baby

Is this a multiple birth? Yes No If Yes, how many? Baby _____ of _____

Baby's D.O.B. (Y/M/D) _____ M F Birthweight _____ gm

Gest _____ (weeks) Vaginal C/S Para _____ Gravida _____

Mother's D.O.B. (Y/M/D) _____ Mother's D/C date (Y/M/D) _____

Baby D/C with mother? Yes No If no, reason _____

Special Care Nursery Stillborn Other _____

Breast Feeding Bottle Feeding

Does mother speak English? Yes No If No, Mother's language _____

Tel. No. and address during first week if different than listed Tel: () _____

Address: _____

Other agencies family has been referred to CAS PID CCAC

Other _____ Clinic Appt. Date (Y/M/D) _____

Baby's Dr. _____

A. Children with Congenital or Acquired Health Challenge	Please Circle
1. Major (probability of permanent disability) e.g. Down syndrome, cerebral palsy (specify)	9
2. Moderate (correction may be possible) e.g. cleft palate, loss of limb (specify)	6
B. Development Factors:	
3. Low birthweight	9
a) 0-1499 gm	8
b) 1500-1999 gm	6
c) 2000-2499 gm	6
4. Complications of pregnancy:	9
a) infections that can be transmitted in utero and may damage the fetus (e.g. AIDS, rubella) (specify)	9
b) drugs (e.g. alcohol or drug abuse diagnosed in mother) (specify)	9
5. Complications of labour and delivery:	4
a) labour requiring mid forceps, including breech delivery, or emergency caesarean (specify)	6
b) infant complications or illness (e.g.: convulsions, respiratory distress syndrome) (specify)	6
c) if Apgar less than 7 at 5 min., deduct 5 min. Apgar score from 10	4
6. Family history of genetic health challenge that may affect development (e.g.: deafness, mentally challenged) (specify)	4
C. Family Interaction Factors	
7. Age of mother	9
a) 15 and under	8
b) 16 or 17	5
c) 18 or 19	2
8. Social Situation	7
a) one parent family with adequate support	4
b) one parent family - no support	3
c) two parent family - no social support and/or severe isolation related to culture, language or geography	4
9. Financial difficulties	4
10. No prenatal care before sixth month	4
11. Mental illness/mental challenge in mother and/or father:	7
a) schizophrenia or bipolar affective disorder (i) mother	7
(ii) father	9
b) postpartum depression or psychosis	6
c) mentally challenged parent (i) mother	6
(ii) father	6
12. Prolonged postpartum maternal separation:	2
a) with frequent infant contacts (visits or phones as feasible)	6
b) little or no contact	6
13. Assessed lack of bonding (e.g.: minimal eye contact or touching)	6
14. Other e.g.: marital distress, low education status, parenting difficulties, family violence, no prenatal class attendance, high stress related to delivery, maternal smoking during pregnancy, maternal under-nutrition, previous stillbirth or neonatal death. (Score 0 to 9)	6

Smoking In Pregnancy Survey
 Since your found out that you were pregnant, have you smoked more than a few cigarettes?
 Yes No

Specify reason: _____

Total Score _____

Client consents to release of information and referral to Public Health Yes No Referring Hospital CVH THC WOHC (B)

Name of person completing this form (please print) _____ Title _____ Signature _____ Date (Y/M/D) _____

V-07-426 01/03 White - Peel Health Canary - Hospital

**APPENDIX B
SMOKING AND PREGNANCY SURVEY**

Q1 Since you found out that you were pregnant, have you smoked more than a few cigarettes?

Yes⇒ Go to Q2Y
 No⇒ Go to Q2N
 Don't Know⇒ Go to Q6
 Refused⇒ Go to Q6

Q2N Between your last menstrual period and the time you found out that you were pregnant, did you smoke more than a few cigarettes?

Yes⇒ Go to Q3N
 No⇒ Go to Q6
 Don't Know⇒ Go to Q6
 Refused⇒ Go To Q6

Q2Y I want to ask you a few questions about your smoking during your entire pregnancy. During the first 3 months of the pregnancy, did you smoke: daily, almost every day, occasionally or not at all?

Daily⇒ Go to Q2Ya
 Almost Every Day⇒ Go to Q2Ya

Q2Ya How many cigarettes a day did you smoke? # per day _____
 (Large pack = 25, Small pack = 20)
 ⇒ Go to Q3Y

Q3N During this time did you smoke: daily, almost every day, occasionally, or not at all?

Daily⇒ Go to Q3Na
 Almost Every Day⇒ Go to Q3Na
 Occasionally⇒ Go to Q6
 Not At All⇒ Go to Q6
 Don't Know⇒ Go to Q6
 Refused⇒ Go to Q6

Q3Na How many cigarettes a day did you smoke? # per day _____
 (Large pack = 25, Small pack = 20)
 ⇒Go to Q6

Q3Y During the second 3 months of the pregnancy, did you smoke: daily, almost every day, occasionally, or not at all?

Daily⇒ Go to Q3Ya
 Almost Every Day⇒ Go to Q3Ya
 Occasionally⇒ Go to Q4Y
 Not At All⇒ Go to Q4Y
 Don't Know⇒ Go to Q6
 Refused⇒ Go to Q6

Q3Ya How many cigarettes a day did you smoke? # per day _____
 (Large pack = 25, Small pack = 20)
 ⇒ Go to Q4Y

Q4Y During the final 3 months of the pregnancy, did you smoke: Daily, almost every day, occasionally, or not at all?

Daily⇒ Go to Q4Ya
 Almost Every Day⇒ Go to Q4Ya
 Occasionally⇒ Go to Q5
 Not At All⇒ Go to Q6
 Don't Know⇒ Go to Q6
 Refused⇒ Go to Q6

Q4Ya How many cigarettes a day did you smoke? # per day _____
 (Large pack = 25, Small pack = 20)
 ⇒ Go to Q5

Q5 While you were pregnant, did you try to quit smoking cigarettes?

Yes⇒ Go to Q6
 No⇒ Go to Q6
 Don't Know⇒ Go to Q6
 Refused⇒ Go to Q6

Q6 Currently, do you smoke: daily, almost every day, occasionally, or not at all?

Daily⇒ Go to Q6Ya
 Almost Every Day⇒ Go to Q6Ya
 Occasionally⇒ Go to Q7
 Not At All⇒ Go to Q7
 Don't Know⇒ Go to Q7
 Refused⇒ Go to Q7

Q7 **What is the highest level of education you have completed?
(Do not read list. Ask person to respond and simply circle the
best answer).**

- 1 No schooling
- 2 Some elementary schooling
- 3 Completed elementary schooling
- 4 Some high school/junior high
- 5 Completed high school
- 6 Some community college
- 7 Some technical school
- 8 Completed community college
- 9 Completed technical school
- 10 Some university
- 11 Completed bachelors degree
- 12 Postgraduate training: MS, MSc, MLS, MSW, etc.
- 13 Postgraduate training: PhD, doctorate
- 14 Professional degree: law, medicine, dentistry

Q8 **To what ethnic or cultural group(s) did your ancestors belong?**

1st origin _____ 2nd origin _____

- | | |
|--------------------|------------------|
| 1 English | 12 Jewish |
| 2 Canadian | 13 Jamaican |
| 3 Scottish | 14 Filipino |
| 4 Irish | 15 Ukrainian |
| 5 Italian | 16 Dutch |
| 6 Chinese | 17 Greek |
| 7 East Indian | 18 Spanish |
| 8 French | 19 Welsh |
| 9 German | 20 Hungarian |
| 10 Polish | 21 Others |
| 11 Portuguese | |

Q9 **Were you born in Canada?**

- Yes
- No⇒ Go to Q9a
- Don't Know
- Refused

Q9a **How many years have you lived in Canada? # of years _____**

THANK YOU FOR PARTICIPATING.

APPENDIX C

INFORMATION AND CONSENT STATEMENT FOR PARTICIPANTS

We are currently involved in a research study with the University of Toronto and I would like to know if you are interested in participating. Several health departments (Durham/Peel/York/Toronto) are working on this project.

The purpose of this project is to obtain information on smoking behaviour in pregnancy. If you agree to participate, it will involve answering a short questionnaire over the phone with me.

All your answers will be kept confidential, the researchers from the University of Toronto will not get your name.

You do not have to consent. If you do agree to participate you can at any time also refuse to answer any question. Your decision will not affect the quality of services that you receive from the Peel Health Department.

The goal of this study is to help plan and deliver better programs to help both mothers and babies.

Do you have any questions?

Do you want more information? (Ask if you can help or if they want to receive study information brochure)

Are you willing to participate?

YES

NO

If yes, sign your name and date in the space below to signify that the above was read and the person agrees.

Nurse's name

Date

Only if the client agrees do you enter the data on the next page.

APPENDIX D

Number and Per Cent of Smokers* by Pregnancy Period and Maternal Age Group, Region of Peel, May-June 2002

Pregnancy Period	Maternal Age Group							
	<20 Years		20-24 Years		25-29 Years		30+ Years	
	#	%	#	%	#	%	#	%
During Pregnancy	5	71.4	12	28.6	19	12.7	25	11.8
1st Trimester	NR	---	NR	---	7	4.7	10	4.7
2nd Trimester	NR	---	NR	---	7	4.7	10	4.7
3rd Trimester	NR	---	NR	---	7	4.7	9	4.2
Post Partum	NR	---	NR	---	7	4.7	8	3.8
Total	7		43		150		212	

NR=Not releasable due to small numbers.

* smoker defined as smoking daily or almost every day (excludes occasionally)

APPENDIX E

Number and Per Cent of Smokers* by Pregnancy Period and Education Level, Region of Peel, May-June 2002

Pregnancy Period	Education Level							
	Less than High School		Completed High School		College [†] and Some University		University	
	#	%	#	%	#	%	#	%
During Pregnancy	12	40.0	17	24.3	27	17.2	5	3.1
1st Trimester	7	23.4	NR	---	10	6.4	NR	---
2nd Trimester	5	16.7	NR	---	8	5.1	NR	---
3rd Trimester	5	16.7	NR	---	8	5.1	NR	---
Post Partum	5	16.7	NR	---	6	3.8	NR	---
Total	30		70		157		161	

NR=Not releasable due to small numbers.

* smoker defined as smoking daily or almost every day (excludes occasionally)

† Includes women who completed some or all of their college education.

APPENDIX F

Number and Per Cent of Smokers* who Tried to Quit and Who Were Smoking at the Time of the Survey by Maternal Age Group, Region of Peel, May 2001 & May-June 2002 Combined

Smoking Status	Maternal Age Group (Years)					
	<20		20-29		30+	
	#	%	#	%	#	%
Tried to Quit	10	90.9	74	94.9	50	78.1
Smoked at Time of the Survey	7	63.6	19	24.4	18	28.1
Total	11		78		64	

* smoker defined as smoking daily or almost every day (excludes occasionally)

APPENDIX G

Number and Per Cent of Smokers* who Tried to Quit and Who Were Smoking at the Time of the Survey by Education Level, Region of Peel, May 2001 & May-June 2002 Combined

Smoking Status	Educational Level							
	Less than High School		Completed High School		College [†] /Some University		University	
	#	%	#	%	#	%	#	%
Tried to Quit	26	86.7	34	85.0	61	88.4	14	93.3
Smoked at Time of the Survey	17	56.6	10	25.0	15	21.7	NR	---
Total	30		40		69		15	

NR=Not releasable due to small numbers.

* smoker defined as smoking daily or almost every day (excludes occasionally)

† Includes women who completed some or all of their college education.