

# Are Pregnant Women Receiving Support for Smoking Dependence when Attending Routine Antenatal Appointments?

G Cully  
Health Promotion Service, 52 Broomhill Road, Tallaght, Dublin 24

## Abstract

Early and consistent intervention with pregnant smokers can reduce the incidence of adverse pregnancy outcomes associated with smoking during pregnancy. A survey of 470 pregnant women was conducted to establish the care they received in relation to smoking whilst attending routine public antenatal appointments. The overall prevalence of smoking was 23.5%. Age, level of education and nationality were associated with smoking status with younger, less educated Irish women being most likely to smoke. Women attending for their first visit were much more likely to be asked about their smoking status 71(85.5) versus 68(17.8) and advised to quit if they were smokers 11(73.3) versus 11(15.7). None of the women were offered specific assistance to help them stop smoking or had a follow-up appointment arranged specifically to do with smoking. 167 women (35.6) were exposed to passive smoking in their own homes.

## Introduction

The relationship between smoking during pregnancy and adverse pregnancy outcomes, for example, low birthweight<sup>4</sup>, prematurity<sup>2</sup>, ectopic pregnancy<sup>5</sup>, spontaneous abortion<sup>2</sup>, placenta praevia<sup>2</sup>, placental abruption<sup>2</sup> and perinatal death<sup>2</sup> has been reported in the literature for many years. Smoking remains one of the few potentially preventable factors associated with these adverse effects and while a higher proportion of women stop during pregnancy than at other times in their lives, many women find it hard to stop, or to reduce smoking during pregnancy<sup>3</sup>. Passive smoking is also adversely associated with pregnancy outcome as it is causally associated with preterm birth and low birth weight. It is also associated with respiratory illnesses and disease in young children<sup>6</sup>. There is evidence that intervention provided by health care professionals can lead to reductions in the number of women who continue to smoke throughout pregnancy. Lumley et al recommend that attention to smoking behaviour together with support for smoking cessation and relapse prevention needs to be as routine a part of antenatal care as the measurement of blood pressure<sup>8</sup>.

The 5 A's approach (ask about smoking status and record, advise the pregnant woman to stop smoking using clear, strong and personalised advice about the impact of smoking and the benefits of quitting, both for the woman herself and her baby, assess the woman's willingness to stop smoking by asking if she is interested in stopping, assist the woman to stop smoking and arrange follow-up soon after her quit date) is considered best practice for treatment of tobacco use and dependence in pregnancy<sup>7</sup>. These interventions need to be done at each antenatal appointment in order to maximise their effect and the duration of each session is usually three to five minutes. Studies have shown however, that many pregnant women are reluctant to disclose their smoking status as a result of social pressure and an expectation that they shouldn't be smoking. Mullen and colleagues have recommended the use of a structured question to improve disclosure<sup>10</sup>. This question allows the woman to report positive changes such as cutting down on the number of cigarettes she smokes, and is less confrontational than using a closed question.

This study explored the care provided to pregnant smokers in relation to the frequency of activity for each component of a brief intervention for tobacco dependence, during routine antenatal appointments in the Coombe Women & Infants University Hospital.

## Methods

This observational quantitative study was carried out using a previously validated, structured, self-administered questionnaire. The final questionnaire contained 16 questions which were predominantly closed ended with a list of options for respondents. It was piloted with five pregnant women, to get feedback on the question content, format, wording, structure, clarity, appropriateness and sequencing. Minor modifications were made to reflect feedback received. The survey questionnaire did not contain any identifying markers, so anonymity was guaranteed and confidentiality maintained. A free text box was included at the end of the questionnaire to provide an opportunity for respondents to explain any of their answers. The survey was carried out following the granting of ethical approval over the course of one full week. This allowed women attending each public antenatal clinic in the hospital to be represented. Both smokers and non smokers were targeted.

Hospital records show that five hundred and thirty nine women attended the public outpatient clinics during the course of the week. A total of five hundred and two questionnaires were distributed. Thirty two women refused to take part in the survey; therefore the final number of

completed questionnaires was four hundred and seventy, which is a response rate of 87%. The women were recruited as they were checking out after their appointment and they were requested to fill out the questionnaire prior to leaving the outpatient department. Exclusion criteria included women under 16 years of age and therefore unable to give informed consent to participate in the study, women with insufficient proficiency in English to fully understand the questionnaire and any woman attending the antenatal clinic for urgent care. Women could only complete the survey once, so in the unlikely event of a woman being asked to attend the clinic twice in the same week, she was not asked to complete the survey twice.

Written information and contact details for local smoking cessation services were available to all women who requested support for themselves or another family member, friend or colleague. A Patient Information Leaflet was provided for each participant, explaining the voluntary nature of the survey. The researcher was available throughout the data collection period to answer any queries and to help respondents where required. The data was analysed using the statistical package SPSS 15 software product. The main statistical method involved was descriptive analysis using Chi-Square Tests. SPSS function, Cross tabulations and Chart builder were used to provide the tables.

## **Results**

### *Demographic profile of participants*

Participants were at varying stages of their pregnancies. The minimum number of weeks of pregnancy observed was six weeks and the maximum number was forty one weeks. Participants ranged in age from 18->40 years, with almost 70% being aged 30 years and younger.

Figure 1

Education levels also varied as outlined in Figure 2.

The majority of the women who took part in the study were Irish (63.4%), with the remaining 36.6% coming from foreign countries. In total forty two countries were represented in the study. Eighty four (17.9%) women were on their first visit to the outpatient department on this pregnancy.

### *Prevalence of Smoking*

Each participant was offered a list of statements to choose from to describe her current smoking status as shown in Table 1. The women were further classified as either currently being a smoker or a non-smoker. Those who have cut down their smoking since finding out they were pregnant or have continued smoking were considered to be smokers while those who never smoked or stopped smoking either before or after finding out about the pregnancy were considered to be non-smokers. One hundred and ten women (23.5%) were smokers.

### *Age Group, Level of Education and Nationality Vs. Smoking status*

This survey demonstrated a very clear relationship between age and smoking status with younger women being more likely to smoke throughout their pregnancies when compared with older pregnant women. Over 75% of pregnant smokers are under thirty years of age, fifty two (47.3%) of the one hundred and ten smokers are aged 18-25 years, and a further thirty one (28.2%) are aged 26-30 years. There is a relationship between education level and smoking status in this survey. One hundred and twenty seven women (52.5%) who have never smoked have a third level or technical education, while 68% of regular smokers are educated to primary or second level only.

With regard to women who stop smoking before finding out about the pregnancy, 75 (over 96%) were educated to secondary or third level. Similarly for the spontaneous quitters, 36 (over 97%) were educated to secondary or third level. This is in keeping with the evidence that pre-pregnancy and spontaneous quitters are more likely to be more educated than women who continue to smoke throughout the pregnancy. There is a significant relationship between nationality and smoking status. Forty two countries were represented in this survey. Of the one hundred and ten smokers, ninety (81.8%) were Irish. The remaining twenty women were from Lithuania (6), Poland (4), U.K. (3), South Africa (2), Estonia (1), Canada (1), China (1), Bulgaria (1) and Philippines (1). The prevalence of smoking among Irish women was 30.3%, compared with 11.6% for women from foreign countries.

#### *Findings in relation to Passive Smoking*

One hundred and sixty seven (35.7%) of the women surveyed in this study (N = 469) reported that they were exposed to passive smoking in their own homes. A higher percentage of younger women were exposed to passive smoking with over 46% of those exposed being in the 18-25 year age group. Comparing Irish women with women from foreign countries, one hundred and sixteen (39%) Irish women were exposed to passive smoking compared with fifty one (30%) of women from foreign countries.

#### *Findings in relation to intervention components*

Ask: One hundred and thirty nine women (N = 466) were asked if they smoked on this antenatal visit. Seventy one of the women (N = 83) who were visiting the outpatients department for the first time were asked if they smoke compared with only sixty eight (N = 383) of women who were not visiting for the first time. Advise: Twenty two women (N = 85) were advised to stop smoking. Eleven women (N = 15) for whom it was their first visit were advised to stop smoking compared to eleven (N = 70) who had previous visits. Assess: Only four women (N = 110) were asked what they thought about their smoking and six women (N = 110) were asked if they were interested in stopping smoking. Three were asked by their doctor and three by their midwife. Assist and Arrange follow-up: None of the pregnant smokers were offered assistance to stop smoking or referred to a local free smoking cessation service.

#### **Discussion**

There is a marked difference between the care provided to women attending for their first antenatal visit and to that provided on subsequent visits to the outpatient department. Women attending their first visit were much more likely to be asked about their smoking behaviour and advised to stop smoking. It is a concern that the remaining components of a brief intervention are not done, as the 5A's approach offers an effective and safe counselling approach that improves quit rates by 30%-70%. Pre-pregnancy quitters and Spontaneous quitters are two special groups within this population group who need extra care and attention. Whilst they appear to be a very motivated group, ongoing support and encouragement is essential to help them to maintain their smoke-free status. It is notable and a concern in light of available evidence that passive smoking is not addressed with pregnant women in any constructive way. Further research is required to establish the reasons behind this lack of provision of evidence-based care regarding tobacco dependence with this population group. It would also be useful to examine the role of General Practitioners in supporting pregnant smokers to stop smoking and to stay stopped as they are actively involved in the provision of combined antenatal care.

Correspondence: G Cully  
Health Promotion Service, 52 Broomhill Road, Tallaght, Dublin 24  
Email: [geraldine.cully@hse.ie](mailto:geraldine.cully@hse.ie)

#### **References**

1. Niedhammer I, Oâ Mahony D, Daly S, Morrison JJ, Kelleher CC. (2009). Lifeways Cross-Generation Cohort Study Steering Group. Occupational predictors of pregnancy outcomes in Irish working women in the Lifeway cohort. *BJOG Jun*; 116:943-52.
2. Kabir Z, Clarke V, Conroy R, McNamee E, Daly S, Clancy L. (2009). Low birthweight and preterm birth rates 1 year after the Irish workplace smoking ban. *BJOG Dec*; 116:1782-7.
3. Saraiya M, Berg CJ, Strauss LT, Atrash HK, Ahn YW. (1998). Cigarette smoking as a risk factor for ectopic pregnancy. *American Journal of Obstetrics and Gynecology*, 178: 493-498.
4. Ness RB, Grisso JA, Hirschinger N, Markovic N, Shaw LM, Day NL and Kline J. (1999). Cocaine and tobacco use and the risk of spontaneous abortion. *The New England Journal of Medicine Feb 4*;340:333-339.
5. Ananth CV, Smulian JC, Bintzileos AM. (1999). Incidence of placental abruption in relation to cigarette smoking and hypertensive disorders during pregnancy: a meta analysis of observational studies. *Obstetrics and Gynaecology* 93: 622-627.
6. Ershoff DH, Quinn VP, Boyd NR, Stern J, Gregory M, Wirtschafter D. (2000). The Kaiser Permanente prenatal smoking trial: When more isn't better, what is enough? *Tobacco Control* 9: 60.
7. U.S. Department of Health and Human Services (2006) *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A report of the Surgeon General*. U.S. Department of Health and Human Services, Centres for Disease Control and Prevention, Co-ordinating Centre for Health Promotion, National Centre for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.
8. Lumley J, Oliver SS, Chamberlain C, Oakley L. (2004). Interventions for promoting smoking cessation during pregnancy. *Cochrane Database of Systematic Reviews*, Issue 4.
9. Melvin C, Gaffney C. (2004) Treating nicotine use and dependence of pregnant and parenting smokers: An update. *Nicotine & Tobacco Research* 6: S107-24.
10. Mullen PD, Carbonari JP, Tabak ER, Glendey MC. (1991). Improving disclosure of smoking by pregnant women. *American Journal of Obstetrics and Gynaecology* 165: 409-413.

Comments: