# Why do pregnant women smoke and can we help them quit?

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Abstract • Résumé

As observed by Dr. Linda Dodds (see pages 185 to 190 of this issue), there has been little change in recent years in the smoking rate of about 30% among pregnant women in Nova Scotia. Women who smoke during pregnancy tend to be young, unmarried, undereducated and multiparous and tend not to go to prenatal classes. Many pregnant women find it extremely difficult to stop smoking even when they understand the risks to the fetus. Routine advice given by physicians on smoking cessation is clearly ineffective. However, informed physicians who recognize the difficulty of quitting and offer support and advice in a systematic way can help women to progress through the stages of the smoking cessation process.

Comme l'a remarqué Mme Linda Dodds (voir pages 185 à 190 du présent numéro), le taux de tabagisme chez les femmes enceintes en Nouvelle-Écosse, qui est d'environ 30 %, a très peu changé ces dernières années. Les femmes qui fument au cours de la grossesse ont tendance à être jeunes, célibataires, peu instruites, multipares, et à ne pas assister aux cours prénataux. Beaucoup de femmes enceintes ont extrêmement de difficulté à cesser de fumer même lorsqu'elles comprennent les risques pour le foetus. Les conseils de routine donnés par les médecins sur l'abandon du tabac sont clairement inefficaces. Les médecins informés qui reconnaissent qu'il est difficile de cesser de fumer et offrent un appui et des conseils systématiques peuvent toutefois aider les femmes à franchir les étapes du processus d'abandon du tabac.

In this issue (see pages 185 to 190) Dr. Linda Dodds reports that between 1988 and 1992 there was little change in the prevalence of smoking during pregnancy among women in Nova Scotia. Why do a third of pregnant women continue to smoke when, as an American study shows,[1] most of them know the risks? Since giving routine advice is clearly not enough, what can physicians do to help these women quit?

## Extent of the problem

Smoking during pregnancy creates significant risks that increase with the amount smoked.[2-7] It results in a reduction in birth weight of 150 to 250 g and increases the risk of intrauterine growth retardation by 2.4 to 4 and of spontaneous abortion by 1.1 to 1.8.[2] For women who smoke a pack a day, the relative risks for placenta previa are 2, for abruptio placentae 1.8 and for preterm birth 1.4.[2] Evidence is also good that stopping or reducing the amount smoked, especially in early pregnancy, increases birth weight in an inverse dose–response relation.[7-9]

Fox and associates[1] found that in a sample of women most knew that smoking during pregnancy could be harmful to their baby and were able to identify the risks of low birth weight (85%), miscarriage (75%), premature birth (76%) and stillbirth (68%). Fingerhut, Kleinman and Kendrick,[4] and Batty and King[5] found that most of the women in their studies who smoked before pregnancy reduced their smoking during pregnancy. Of 3628 women surveyed post partum in a hospital study in the Ottawa–Carleton region in 1983, 37.4% smoked before their pregnancies.[6] Of these, 31.1% stopped smoking and 28.1% reduced the amount they smoked during their pregnancies. These findings are consistent with US national data. Fingerhut and collaborators,[4] for example, reported that of the one third of American women who smoked before pregnancy, 39% quit after becoming pregnant. In their study, the most frequently mentioned reason for quitting was fear of adverse pregnancy outcomes and infant health problems (reported by 75%). O' Campo and colleagues[10] found that in a study involving pregnant women who stopped smoking, advice by physicians or family members

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was mentioned by only 8% as a decisive factor in giving up smoking.

The characteristics of the women described in Dodds' study correspond to those identified in other studies of women who continue to smoke during pregnancy. Women who smoke while pregnant tend to be young, unmarried, poor, stressed, undereducated, multiparous and heavy smokers and tend not to go to prenatal classes.[2,4,6,11] Is smoking during pregnancy a marker for poverty and stress?

## WHY WOMEN CONTINUE TO SMOKE

Why is it so extraordinarily difficult for pregnant women to stop smoking when the motivation to quit is so high? Insight may be gained from the research literature on why women who smoke continue their habit. Pederson and Lefcoe[12] found that in a sample of young women a positive attitude toward smoking was the best predictor of maintenance of smoking. In a study of women's attitudes toward smoking Greaves[13] found that although most of the women in a focus group considered themselves addicted and disliked smoking itself, they liked the social, psychologic and physical effects of the cigarettes. This ambivalent relationship between committed smokers and their cigarettes was described by Robin Hunter[14] in a recent article in *CMAJ*.

Greaves[13] found that some women use cigarettes to "organize" their social interactions — to build and bond pleasant social or work relationships. Smoking can also be used to screen out, defuse or end difficult or tense interactions.

Smoking can be used as a means of self-definition, projecting a personal image perceived by the smoker to be cool, tough, defiant, adventurous, sexy, young and slim. However, some smokers feel it necessary to justify feeling out-of-control and addicted.[13]

Smoking can also be used to suppress emotions, to "suck back . . . anger" or dissipate feelings of fear or pain in preference to expressing negative emotions openly. Cigarettes may be seen as a comforter, a friend, a dependable partner who is there whenever needed and a source of nonjudgemental support.[13]

Women sometimes express their ambivalence toward their cigarettes in terms of such inner conflicts as seeking autonomy but feeling controlled, reaching for comfort and finding guilt and a threat to health, and projecting a tough and courageous image while suppressing one's most powerful feelings.[13]

Single mothers living in severe poverty may smoke as a way of taking a few moments for themselves and making the stress of caring for their families tolerable. They smoke to care. In Britain this group has the highest per capita consumption of cigarettes. For these women, cigarette purchases may be the only spending they do just on themselves.[15]

In a review of the literature on women and smoking Greaves[11] noted that in a New Zealand study women who smoked were more likely to report family problems and symptoms of depression and to be more "unhappy" than women who did not smoke. This makes intuitive sense when one considers the characteristics of people addicted to drugs or alcohol. Even adolescents who start smoking tend to be less physically attractive and less physically fit, to do more poorly in school and to have lower self-esteem than their nonsmoking peers.[12,16]

The influence of smoking husbands, partners, family members and friends can also contribute to the difficulty of giving up smoking, as can problems with weight gain and anxiety that may arise.[2,11] For some smokers, these difficulties may seem insurmountable. Perhaps the feelings of stress and deprivation experienced by pregnant smokers who are young, single, undereducated, poor, multiparous or unhappy make continued smoking seem a reasonable choice. Like an abusive spouse, cigarettes may be loved and needed — but hated as well.[11]

## HELPING PREGNANT WOMEN QUIT SMOKING

If physicians' routine advice to quit smoking is ineffective[5] what interventions will actually help pregnant smokers to quit? Floyd and coworkers[2] reviewed 13 prenatal smoking cessation programs and found that 10 had some positive effect. The more successful programs used a designated counsellor who taught specific cessation skills and reinforced advice with follow-up contact and printed materials specifically for the pregnant smoker. Programs using existing prenatal care providers had mixed results. Several that gave advice and cessation counselling had no effect. One was effective only when physicians adhered closely to the protocol; another worked for primiparas but not for multiparas.[2] However, a program devised by Hjalmarson, Hahn and Svanberg[17] doubled quit rates by using physician advice and a cessation manual specifically for pregnant smokers.

Are smoking cessation programs cost effective? About one quarter of women smokers in the United States who become pregnant quit without any help after learning of their pregnancy.[2] Systematic intervention by physicians may double cessation rates in the remaining smokers.[17] The success and efficacy of multicomponent programs conducted by trained providers using specific materials is supported by cost-effectiveness studies that show health care savings of two to three dollars for each dollar spent.[18-20]

Three Canadian programs could address the needs of physicians wanting to counsel pregnant women to stop smoking. The Canadian Council on Smoking and Health (CCSH) has developed a smoking cessation program that is being taught to physicians across Canada.[21] The program, called Guide Your Patients to a Smoke Free Future, can be adapted for prenatal use with the addition of extra information on the risks of smoking during pregnancy. A smoking cessation program specifically for pregnant women is being

designed by Dr. Cheryl Levitt for the College of Family Physicians of Canada.[22] Dr. Fred Bass has developed the BC Doctors' Stop Smoking Project at the British Columbia Medical Association for physicians in that province; this program can also be easily adapted for use in pregnancy.

New research shows that although smoking cessation is in fact a *process* of learning to live without cigarettes[23] physicians tend to focus principally on the *event* of quitting. Physicians think that smokers should suddenly become nonsmokers. This is an oversimplification of the natural history of smoking cessation. During the process of becoming a nonsmoker, smokers move from not considering quitting to considering it, preparing to do it, actually quitting and trying to remain a nonsmoker. This understanding of smoking cessation as a process is based on Prochaska and Di Clemente's Stages of Change model, according to which the person who overcomes a dependence problem moves through the stages of precontemplation, contemplation, preparation, action and maintenance.[23] Our job as physicians is to try to understand the smoker's point of view and to motivate her progress from one stage to the next. Trying to move precontemplators into the action stage during a first encounter may actually be counterproductive. A relapse stage also exists in this model; for most, moving through the relapse stage several times is a natural part of the process of learning to live without cigarettes. A self-help book detailing the psychologic processes of change and the approaches that work best at each stage is available.[24] This book is useful both to patients wanting to change lifelong habits and to those who counsel these changes.

Counselling programs should be positive and respond to patients' needs. They should avoid blaming the victim and increasing her guilt.[3,5,14] When focus groups of women smokers were asked to advise physicians on counselling smoking cessation, their advice was "Listen to [the smoker]," "Don't nag, because nagging doesn't work" and "Try to understand the complexity of wanting to smoke and respect that" (Dr. Cathy Cervin, Department of Family Medicine, Dalhousie University, Halifax: personal communication, 1994). This process makes good use of physicians' basic counselling and psychotherapeutic skills and avoids the confrontational style that seems to pervade approaches to addictions[25] and even appears in letters to *CMAJ* on smoking cessation.[26]

Physicians are uniquely positioned to assist pregnant women in smoking cessation at this teachable and highly motivated moment in their lives.[5] Informed physicians who teach specific cessation skills and reinforce advice with printed materials and follow-up contact can significantly increase the number of women who stop smoking during pregnancy. Physicians should provide help in a supportive way that builds self-esteem, legitimizes the difficulty of quitting and avoids increasing the guilt of continuing to smoke while encouraging the patient to maintain a strong sense of purpose and direction.[27]

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