

# Smoking in pregnancy – the size of our challenge

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## SUMMARY

**Reducing the prevalence of smoking in pregnancy is a priority target for health care. We administered a semi-structured questionnaire to mothers in an inner city general practice who were given brief anti-smoking advice during routine antenatal care. Of a cohort of 113 mothers, 52(46%) reported smoking at the start of pregnancy. Six(12%) of these 52 smokers reported no change in smoking habit during pregnancy; 24(46%) cut down; 12(23%) stopped; 10(19%) increased their cigarette consumption. Of the 52 smokers, 41(79%) believed smoking was harmful to an unborn baby, yet 30(73%) of these women continued smoking. Almost all recalled having been given anti-smoking advice by the GP and/or hospital. There is an urgent need to identify more effective methods of reducing smoking in pregnancy.**

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## INTRODUCTION

While the overall prevalence of smoking is decreasing,<sup>1</sup> its prevalence among women, compared to men, is increasing, especially among teenagers.<sup>2</sup> Health inequality is increasing<sup>3</sup> and smoking is more prevalent in the lower socio-economic groupings.<sup>4</sup> Smoking in pregnancy has adverse effects on the mother's health and carries health risks for a fetus.<sup>5,6</sup>

A reduction in smoking in pregnancy is a priority for health care.<sup>1</sup> Some women stop smoking without assistance when they become pregnant but cessation may be enhanced by advice from a health professional.<sup>7,8</sup> Much of the evidence that health professionals could do more to promote smoking cessation comes from a research environment.<sup>7,9,10</sup>

This study aimed to determine, within an inner city general practice, the extent of self-reported efforts to quit smoking, after brief anti-smoking advice was given during routine antenatal care and to examine levels of knowledge in terms of patients' reported perceptions of harm and recall of advice. Brief anti-smoking advice involved asking the patient if they smoked and, if they did, if they would consider stopping. For those who wished, further help was available and was tailored to the individual.<sup>8</sup> Details of help provided were not recorded for the purposes of this study. A poster was displayed in the waiting room and

information leaflets were available. It was the practice policy to mention the subject of smoking on a regular basis, thus reinforcing advice through repetition, with care being taken not to alienate patients from future consultations.

## METHOD

This study was carried out within an inner city practice in a socially deprived area of Belfast, by a final year medical student with the supervision of a GP partner: research ethical committee approval was not sought.

In December 1999 computer records were used to identify mothers of all children aged under 18 months. Those who had not attended the practice for antenatal care and those who were known to have personal circumstances such that questioning regarding smoking might have caused distress were excluded.

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Patients were contacted by telephone by the medical student who invited their participation in a questionnaire survey of smoking habits. House calls were made if attempts at telephone contact failed. The student read out the questions from a piloted questionnaire and recorded responses. Those who reported not smoking or smoking less than one cigarette per day just before their last pregnancy were not classified as smokers. Interviews lasted less than ten minutes. Responses to open questions were reviewed by two researchers independently and those relating to reasons for changing their smoking habit were categorized into themes. No difference in attitude was noted between those contacted by telephone and others where a house call was made.

The sample size was arbitrary. The practice partners had been trying to promote smoking cessation among antenatal patients for two years prior to the study by giving brief advice: they wished to include approximately 50 patients.

Anonymous data were entered on to SPSS: statistical calculations of interrelationships of variables were inappropriate.

## RESULTS

From the practice records 152 mothers were identified but 15 were excluded: 12 had not attended the practice for antenatal care; three had relevant problems. Of the remaining 137, 117 were successfully contacted but four declined to participate. The smoking status of these 24 mothers is unknown. Of the 113 who participated, 52(46%) reported smoking immediately prior to their last pregnancy. If the non-participants were non-smokers, the population's smoking prevalence would be lower (52/137; 38%).

These self-reported smokers ranged in age from 18 to 43 years (mean and median 27 years).

### *Changes reported in smoking habit during pregnancy*

Smoking prevalence fell during pregnancy to 35% (40/113). Twelve of the 52(23%) smokers reported stopping; 24(46%) cut down; 6(12%) reported no change and 10(19%) reported increasing cigarette consumption.

The reason which was most frequently stated for cutting down or stopping was concern for the unborn baby (29/36; 81%) (Table I). Reasons for increasing cigarette consumption were not specifically sought but many told of their

“craving” for cigarettes while being pregnant and others blamed the stressful prospect of having another child. Most changes in smoking habit occurred in the first trimester (Table II).

TABLE I

### *Main reasons for cutting down or stopping smoking during pregnancy (N=36)*

<i>Reason</i>	<i>N (%)</i>
Concern for unborn baby	29 (81)
Encouragement by family	2 (6)
Advice from hospital	2 (6)
'Went off' cigarettes	3 (8)

Table II

### *Smoking Habit Change during pregnancy by trimester\**

	<i>Cut Down n%</i>	<i>Stopped n%</i>	<i>Increased n%</i>
1st Trimester	20(83)	10(83)	6(60)
2nd Trimester	4(17)	2(17)	4(40)
3rd Trimester	0	0	0
	24	12	10

\* Note: N=52; 6 did not change their smoking habit in any trimester

TABLE III

### *Categories of smokers' perceptions of possible harmful effects of cigarette smoking (N=52)*

<i>Categories of possible harmful effects</i>	<i>N (%)</i>
May affect unborn baby, child and adult	40 (77)
May affect unborn baby and child	1 (2)
May affect child and adult	6 (12)
May affect adult only	2 (4)
No harmful effects	3 (6)

### *Perceptions of harm of smokin*

A belief that smoking was harmful to the unborn baby was reported by 41 of the 52 mothers (79%), yet only 11 of these stopped and 30 continued smoking. Variable beliefs regarding possible harmful effects were reported (Table III). Three mothers, who all continued smoking, reported

believing that smoking was not harmful to anyone. Of the 11 who did not believe that smoking harmed the unborn baby, one stopped and four cut down their consumption.

#### *Recall of advice given on smoking during pregnancy*

The majority recalled being given advice about smoking during pregnancy by the GP (43/52; 83%) and/or hospital (50/52; 96%). One denied having received advice from either the GP or hospital; she believed that smoking was harmful to the unborn baby, child and adult and stopped smoking during pregnancy. Nine of the 11 mothers who denied believing that smoking harmed an unborn baby recalled being given advice by the GP.

#### *Postpartum resumption of smoking*

Seven of the 12 mothers who stopped smoking during pregnancy resumed smoking afterwards (58%); those who remained stopped were three, eight, nine, eleven and eighteen months postpartum at the time of interview. Of the 24 who cut down, 17(71%) had resumed or increased their previous level of consumption.

### **DISCUSSION**

These results indicate that 46% of women in an inner city population are smoking at the start of pregnancy, and 35% continue smoking, but they are based on findings in one general practice only. These figures are somewhat higher than those currently reported for the general population but smoking prevalence is higher among economically inactive women in the unskilled manual socio-economic grouping.<sup>4</sup> The study participants were largely economically inactive. They lived in an area of socio-economic deprivation (approximately 3 miles radius) within the city of Belfast. It is suggested that the sample is representative of the wider population of pregnant women presenting to inner city general practices.

The reported prevalence of smoking in pregnancy may have been even higher if mothers had been interviewed during pregnancy and a measure of biochemical validation had been included. Accurate disclosure of smoking status is a fundamental problem in research and is related to the possible consequences of disclosure but inaccuracies in self-report are more likely to be conservative than to over-represent the size of

the problem.<sup>11, 12, 13</sup> Mothers of young children who are aware of possible harmful effects of cigarettes may not disclose their smoking and may over-report their attempts to comply with advice from health professionals.

The researcher did not detect any differences in responses or attitudes to questioning between patients who were telephoned and those who were visited in their homes. Formal comparisons, unfortunately, were not possible since the type of contact for each patient was not recorded specifically at the time of study. On reviewing the data, it was estimated that approximately two thirds of contacts were by telephone and one third by visits.

The 24 non-participants' smoking status is unknown. If these non-participants were nonsmokers, the study sample's smoking prevalence would be lower (52/137; 38%). However, information gained in trying to establish contact did not suggest that they differed from participants in socio-economic status or economic activity. Difficulties in contact included changed telephone numbers and addresses and different surnames of child, mother and father. It is considered unlikely that there was bias in recruiting participants in respect of their smoking habits.

The cessation rate of 23% during pregnancy falls short of government targets.<sup>1</sup> Encouragement may be derived from the 'cut down' rate of 46% but this strategy is unlikely to lead to cessation.<sup>14</sup> Reasons for increasing smoking during pregnancy included the stress associated with the prospect of having another child. In promoting smoking cessation it must be recognised that smoking is perceived by the socially disadvantaged to relieve pressures associated with hardship, poor housing and single parenthood.<sup>15</sup>

The level of cessation reported by patients in this study was disappointing but the reported level of recall of advice having been given (83%) surpasses previous reports of primary care activity: of smokers attending hospital antenatal clinics only 34% reported having received GP advice.<sup>10</sup> It may be suggested that the current responses are biased because the observer was identified with the practice but she was not known to the patients nor involved in their care: it is considered that they accurately reflect the practice's active policy in promoting smoking cessation.

Current findings in relation to post-partum resumption of smoking are in keeping with previous work.<sup>16</sup> Approximately 80% of those who reduced or stopped during pregnancy did so because of concerns regarding the unborn baby. The absence of this motivation after childbirth may be a factor in restarting smoking.<sup>17</sup>

The apparent contradiction that many women continued smoking despite believing that it was harmful to the unborn baby supports the observation that knowledge of risk does not appear to be a major determinant of maternal smoking.<sup>10</sup> Statements such as: “*It’s never done myself for the kids any harm*” and “*I know they’ve got asthma (the children) but it runs in the family*” may help to explain why women, who say they believe it is harmful, continue smoking. If personal experience contradicts advice imparted by health professionals, beliefs of harm may be held weakly and personal threat may not be perceived. There is variation in beliefs held by pregnant women regarding different possible harmful effects of cigarettes.<sup>18</sup> Haslam has suggested that a targeted health care approach to maternal smoking cessation should be combined with wider community initiatives.<sup>19</sup>

Consistent with previous reports, most changes in smoking habit, regardless of type, were reported in the first trimester. Thus, maximal efforts to promote smoking cessation should be made early in pregnancy.

The difficulties in initiating contact with patients illustrate problems encountered in trying to provide preventive care for this population. The workload involved may often be greater than that recognised when planning health care delivery. It is essential that the efforts of health professionals in attempting to achieve government targets among socially disadvantaged communities are adequately resourced.

## CONCLUSION

This study gives an indication of the size of the challenge facing those involved in helping antenatal patients stop smoking – almost half of those presenting within an inner city practice are likely to require this help. The outcomes are those of routine clinical care rather than of a research environment. Knowledge of the risks of smoking together with anti-smoking advice and recall does not necessarily result in an appropriate behavioural change. There is an urgent need for

the best efforts of health professionals to be informed by further research regarding methods of achieving smoking cessation in routine clinical practice.

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