Smoking in pregnancy: is the message getting through?

A. ASHFORD, MA, MB
R. GERLIS, MB
P. JOHNSON, MB

SUMMARY. In order to determine the current smoking habits of pregnant women and the success of anti-smoking advice, inpatient postpartum mothers were invited to complete a questionnaire on their smoking habits, their knowledge of the ill-effects of smoking in pregnancy and their recollections and reactions to anti-smoking advice.

Over a third of the smokers replied that smoking in pregnancy had no harmful effects, compared with 1% of the non-smokers. Only 37% of the smokers said they knew of the risk of having a smaller baby as a result of smoking, compared with 63% of the non-smokers. A high proportion of both smokers and non-smokers did not recall receiving anti-smoking advice during pregnancy, 55% and 54% respectively. However, 48% of the smokers felt that anti-smoking advice was over-cautious, compared with 7% of the non-smokers.

It is concluded that many smokers are 'blocking' the smoking advice given to them, and it is therefore ineffective. A different approach by health professionals is recommended and the emphasis of the advice given should be changed.

Introduction

The relationship between smoking and pregnancy is well documented, and as a result health professionals have been encouraged to make more effort to dissuade pregnant women from smoking. The most important associations from the viewpoint of health education concern decreased birthweight and increased perinatal mortality, the latter having been shown to be due predominantly to increased risks of placenta praevia and abruptio placentae in women who smoke during pregnancy. Cessation of smoking during pregnancy produces a decrease in both risk factors, in the mortality associated with them and in the perinatal mortality related to smoking in general.

While there has been general agreement for some time that stopping smoking in pregnancy is desirable for both mother and baby, little is known about how best to achieve this aim. Health Education Council campaigns have had disappointing results. Relatively few studies have concerned themselves with the views of the mother and her reactions to advice.

The aims of this study were to discover the habits, knowledge and beliefs of expectant mothers in Harlow, Essex, the sources of their information, what advice was offered to them, and how this was received.

Method

A questionnaire, previously used in a pilot study involving 20 women, was administered to 565 consecutive postnatal mothers at Princess Alexandra Hospital, Harlow, Essex, over a nine-week period in April–June 1984. Three women were excluded because they did not speak English. Non-responders could not be followed-up for two reasons. First, the questionnaires were anonymous and secondly, mothers were unsupervised while they were completed. It was hoped that honesty and spontaneity would be encouraged in this way.

The questionnaire began with a short paragraph explaining its purpose. After five introductory personal questions and six concerned with awareness of and attitudes to smoking in pregnancy, there were seven further questions addressed only to smokers and five for those who had given up the habit.

Respondents were divided into smokers, non-smokers and those who had given up smoking. The latter group included women who had stopped smoking up to six months before pregnancy was confirmed.

Midwives attached to Princess Alexandra Hospital were invited to complete a similar questionnaire, with sections on knowledge of the adverse effects of smoking in pregnancy presented in the same format as the questionnaire completed by the mothers.

Results

Of the 565 questionnaires administered 412 were returned (73% response). Eighty-two mothers (20% of respondents) had continued to smoke, 29 mothers (7%) had given up smoking during or up to six months before pregnancy and 301 mothers (73%) had not smoked for at least six months before pregnancy.

Two questions produced markedly different responses by these groups. In response to the question 'What do you think the effect of smoking may have in pregnancy on the mother and the baby?' 28 smokers (34.0%) replied 'none' whereas only four non-smokers (1.3%) and one of those who had recently stopped (3.4%) gave this reply. Each group was compared against the other using the chi-square test and this showed highly significant differences between smokers and non-smokers (Table 1).

In response to the question 'Do you think that the advice about smoking in pregnancy is over-cautious?' 39 smokers (47.6%) felt that it was in contrast to 22 non-smokers (7.3%) and six of those who had given up (20.7%). Again each group

| Table 1. Response of the mothers to the question 'What do you think the effect of smoking may have in pregnancy on the mother and the baby?' |
|-----------------|-----------------|-----------------|-----------------|-----------------|
| Response        | Ex-smokers*     | Non-smokers     | Smokers         | Total           |
| None            | 1 (3.4)         | 4 (1.3)         | 28 (34.0)       | 33              |
| Some effect     | 24 (82.8)       | 268 (89.0)      | 39 (47.7)       | 331             |
| Don't know      | 4 (13.8)        | 13 (4.4)        | 6 (7.3)         | 23              |
| No response     | 0 (0.0)         | 16 (5.3)        | 9 (11.0)        | 25              |
| Total           | 29              | 301             | 82              | 412             |

Smokers vs. non-smokers: $\chi^2 = 102.7; 3\ df; P<0.001$. Smokers vs. ex-smokers: $\chi^2 = 14.6; 3\ df; P<0.01$. Non-smokers vs. ex-smokers: $\chi^2 = 7.0; 3\ df; not significant. *Ex-smokers were women who had stopped smoking up to six months before pregnancy was confirmed.
Table 2. Response of the mothers to the question ‘Do you think that the advice about smoking in pregnancy is over-cautious?’

<table>
<thead>
<tr>
<th>Response</th>
<th>Ex-smokers¹</th>
<th>Non-smokers</th>
<th>Smokers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>6 (20.7)</td>
<td>22 (7.3)</td>
<td>39 (47.6)</td>
<td>67</td>
</tr>
<tr>
<td>No</td>
<td>23 (79.3)</td>
<td>270 (89.7)</td>
<td>40 (48.8)</td>
<td>333</td>
</tr>
<tr>
<td>Don't know</td>
<td>0 (0.0)</td>
<td>2 (0.7)</td>
<td>0 (0.0)</td>
<td>2</td>
</tr>
<tr>
<td>No response</td>
<td>0 (0.0)</td>
<td>7 (2.3)</td>
<td>3 (3.6)</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>29</td>
<td>301</td>
<td>82</td>
<td>412</td>
</tr>
</tbody>
</table>

Smokers vs. non-smokers: χ² = 79.9; 3 df; P<0.001. Smokers vs. ex-smokers: χ² = 8.39; 2 df; P<0.05. Non-smokers vs. ex-smokers: χ² = 6.8; 3 df; not significant. *Ex-smokers were women who had stopped smoking up to six months before pregnancy was confirmed.

was tested against the other using the chi-square test and this confirmed highly significant differences between smokers and non-smokers (Table 2).

One hundred and eighty-eight non-smokers (62.5%) and 19 of those who had recently given up (65.5%) knew of the risk of having a smaller baby as a result of smoking, compared with only 30 smokers (36.6%) (χ² = 50.3; 2 df; P<0.001).

Over half of the mothers stated they had not been aware of any anti-smoking advice during pregnancy — 45 smokers (54.9%), 163 non-smokers (54.1%) and 18 who had recently stopped (62.1%). Thirty-seven smokers (45.1%) said they would like to stop. All but three of the smokers said that they had reduced their daily cigarette consumption during pregnancy — the average before pregnancy was 19.6 cigarettes per person and 13.6 during pregnancy. Those who maintained that there was no adverse effect on the baby still cut down by an average of 3.4 cigarettes per person per day. Of those who had given up smoking during pregnancy, 21 (72.4%) had done so between the third and eighteenth week of pregnancy.

Of the 37 smokers who recalled receiving anti-smoking advice seven (19%) received this advice from midwives. General practitioners were the source in 10% of cases and hospital doctors in only 6%. Leaflets were the source of advice to 25% of smokers but posters and parentcraft sessions accounted for only 4% each.

Of 107 midwives employed during the study period (30 of whom were students), 72 (67.2%) returned questionnaires. Eleven of the respondents (15.3%) smoked. While 57 respondents (79.2%) mentioned ‘small baby’ or intrauterine growth retardation as a risk of smoking in pregnancy, only one midwife commented on increased risks of antepartum haemorrhage. Twelve midwives (16.7%) were aware of increased preterm labour risk, five (6.9%) mentioned early miscarriage, and five (6.9%) commented specifically on increase in perinatal mortality.

Discussion

The overall conclusion from this study is that, despite anti-smoking campaigns, little progress seems to have been made in discouraging pregnant women from smoking. Twenty per cent of pregnant mothers smoked and seemed unaware of the harmful effects.

How should this situation be improved? Forty-five per cent of the smokers indicated a willingness to give up and all but three of the smokers reduced their intake during pregnancy. It is well-known that the best results in anti-smoking education can be expected from personal advice backed up by leaflets and follow up, and antenatal care in the UK allows adequate opportunity for such health education. However, over half of the mothers in this study did not recall having received anti-smoking advice, a finding similar to that reported in a study in Brighton in 1984.¹

What advice should be given? For many women a small baby means easier delivery and therefore it might be more effective to stress the perinatal mortality, higher risks of antepartum and postpartum haemorrhage, and early respiratory complaints in the new-born. There is a tendency to try not to upset the expectant mother; perhaps we should be firmer. The risks of passive smoking need to be explained, and the important and difficult area of a partner who smokes explored.

When should advice be given? Preconception clinics may provide an opportunity to counsel women and their partners on smoking and other health education. Encouragement should be maintained throughout the pregnancy as beneficial effects occur at any stage with decreased tobacco consumption. Surprisingly few women indicated that parentcraft sessions were a source of advice.

Who should advise? Everyone involved in health care has a part to play.

References


Acknowledgements

We wish to thank all those who helped in the preparation of this paper, but especially the maternity staff of Princess Alexandra Hospital, Harlow, and Drs A. Silman, F. Murphy, J. Davis and S. Scott for their advice and encouragement. We are also most grateful to Mrs J. Passfield, Miss B. Cole and Mrs C. White for their patience.

Address for correspondence
Dr R. Gerlis, Keats House, Bush Fair, Harlow, Essex.

PUBLICATIONS SALES

College publications are no longer available from the Edinburgh Journal office.

Postal or personal applications should be made to the Central Sales Office, Royal College of General Practitioners, 14 Princes Gate, Hyde Park, London SW7 1PU. Payment should be made with order and cheques made payable to RCGP Enterprises Ltd. Orders by Access and Visa are welcome (Tel: 01-581-3232).