

Women's knowledge of emergency contraception

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SUMMARY

Background. More widespread use of emergency contraception could help to reduce the number of unwanted pregnancies.

Aim. The objective of this study was to assess women's knowledge of emergency contraception.

Method. A questionnaire was distributed to 1290 women aged between 16 and 50 years attending 14 general practice surgeries in London over a two-week period in 1990.

Results. The response rate was 70%. Over three quarters of the women had heard of emergency contraception; these were mainly women who used contraception, who had higher educational qualifications or who were not Muslim. Women who were the most likely to need and to use emergency contraception — those using barrier methods — had no more accurate knowledge than women using any other method of contraception. Only 53% of barrier method users knew emergency contraception could be used as a backup when other methods failed. Only one fifth of women had heard about this method from their general practitioner or any other health professional, while half had obtained their information from the media.

Conclusion. These results suggest that including information on emergency contraception in consultations with users of barrier methods of contraception is a small step which general practitioners and practice nurses could take to increase the use of emergency contraception.

Keywords: postcoital contraceptives; emergency contraception; patients' knowledge; women's health.

Introduction

ATTENTION has recently been focused on the potential for emergency, or postcoital, contraception to reduce the number of unwanted pregnancies and thus the abortion rate.¹⁻⁴ It is

estimated that between 30% and 50% of women presenting for terminations of pregnancy were not using contraception at the time they became pregnant⁵⁻⁷ while nearly half of all women who become pregnant do not plan to do so.⁸ Many of the women presenting for abortion could have used emergency contraception, provided they had known of its availability, where it could be obtained, and how to use it.

Two studies carried out in abortion clinics found that while women had heard of the 'morning after pill', few knew the correct time limit within which emergency contraception could be used effectively.^{9,10} A study in a more general population found a similar pattern — women had heard of postcoital contraception, but did not know the relevant time limits.¹¹ Despite recent suggestions by both Glasier and Owen that making emergency contraception available over the counter would increase its use,^{12,13} these studies suggest that ignorance about the use of emergency contraception remains a considerable barrier to any increase in usage.

In order to determine in more detail what information women in a general practice population had about emergency contraception, women of child-bearing age attending a random sample of general practices over a two-week period were asked to complete a questionnaire on this subject.

Method

A random selection of general practices with two or more partners in the City and East London Family Health Services Authority area were approached to assist with the study. Single-handed general practitioners were excluded because their receptionists were unable to give time to extra tasks. The senior partner and, where applicable, the practice manager in each practice were sent a brief letter explaining the study, followed by a telephone call requesting the practice's participation. Where requested, project staff provided further information on the study. In total, 20 practices with three or more partners and 11 practices with two partners were approached.

The practice receptionists were asked to distribute the questionnaire to any woman between the ages of 16 and 50 years attending the surgery for whatever reason. Receptionists were told not to assist the women in completing the questionnaire, and to record the number of women who refused to complete the questionnaire or who were unable to do so because of language or literacy barriers. Questionnaires were distributed over a two-week period in each surgery in 1990. Regular contact between the researchers and the participating practices was maintained to ensure that the questionnaires were distributed as requested.

Respondents were each given a covering letter promising confidentiality and anonymity, and explaining that what they did not know as well as what they did know was important. The questionnaire included questions about whether the respondents had heard of postcoital contraception (it also listed other terms for it, such as the morning after pill), if they knew under what circumstances it could be taken, and from whom it could be obtained. The term emergency contraception is now generally used in preference to postcoital contraception. However, as the latter term was used in the questionnaire, it will be used in reporting the results of the questionnaire. Information on the respondents' background, including method of contraception, obstetric history, ethnicity, religion, level of education and occupation, was also solicited.

Once the study period was completed, a leaflet (in English)

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explaining emergency contraception¹⁴ was distributed to all participating practices, in case any of the women who completed the questionnaire wished for further information.

Analysis

A number of the explanatory variables are related; knowledge of postcoital contraception was therefore modelled using logistic regression, when feasible, to determine which variables explained the outcomes.^{15,16} Some of the variables were condensed into a smaller number of categories. The decision was made to group women whose partner was sterilized with those using barrier methods because couples relying on vasectomy frequently used condoms before the operation. Their knowledge of postcoital contraception is therefore more likely to resemble that of users of barrier methods of contraception than that of women who have been sterilized.¹⁷ Confidence intervals were calculated for the multiplicative effect on the odds ratio of the explanatory variables, and are reported at the 95% confidence level. Where numbers became small, effects were established using chi square or Fisher's exact tests.

Results

Nine practices with three or more partners and nine practices with two partners agreed to participate in the study. However, four practices did not adhere to the protocol and were excluded.

Of 1332 women approached to complete the questionnaire, 42 were excluded because of language or reading difficulties (29) and age (13). Thus 1290 questionnaires were distributed of which 902 were returned (69.9%). Of these, 878 were suitable for analysis.

The characteristics of the women are shown in Table 1. Information on ethnic group was collected but insufficient numbers in some groups precluded use of this variable in analysis. The explanatory variables were highly inter-related, and the following pairs of variables had chi square values of $P < 0.05$. In brief, the older the women were, the more likely they were to have children and to have a partner. Those with children were less likely to have higher qualifications than those without children. Those with a partner were more likely to use barrier methods or not to require contraception at all than those without a partner. Method of contraception was related to age, with younger women tending to be on the oral contraceptive pill while older women used intrauterine contraceptive devices or had been sterilized. Those using no contraception were concentrated in the youngest and oldest age groups. Religion was less closely related to the other variables, although Sikh and Muslim women were somewhat more likely than other women to have children. Women using barrier methods were more likely than women using other methods of contraception to have asked for postcoital contraception, as were women without a partner and women with no qualifications.

Most women had heard of postcoital contraception (690/878, 78.6%). For the logistic regression analysis, some of the variables were condensed into a smaller number of categories. Whether or not respondents had heard of postcoital contraception was significantly associated with level of education and method of contraception (Table 2). From the model, it appears that the effect of increasing education to A level standard has a linearly increasing effect on the respondents' having heard of postcoital contraception. Respondents using biological contraception or no contraception were significantly less likely than all other respondents to have heard of postcoital contraception. While barrier method users were the most likely to know about emergency contraception, they were not significantly more likely to know than other contraception users.

Table 1. Characteristics of the women respondents.

| Characteristic | % of 878 women |
|--|----------------|
| <i>Age group (years)</i> | |
| 16-19 | 6.5 |
| 20-24 | 21.9 |
| 25-29 | 27.0 |
| 30-39 | 33.3 |
| 40-50 | 11.4 |
| <i>Children</i> | |
| 0 | 38.2 |
| 1 | 22.6 |
| 2+ | 35.2 |
| Data missing | 4.1 |
| <i>Education qualifications</i> | |
| None/miscellaneous | 51.1 |
| GCSE/O level/ONC | 22.8 |
| A level/HNC/minor nursing qualification | 10.0 |
| Polytechnic/university | 14.5 |
| Data missing | 1.6 |
| <i>Partner</i> | |
| Yes | 63.2 |
| No | 36.1 |
| Data missing | 0.7 |
| <i>Method of contraception</i> | |
| Progesterone-only/combined oral contraceptive pill | 41.0 |
| None/biological (safe period or withdrawal) | 14.1 |
| Condom | 11.7 |
| Intrauterine contraceptive device/injectable contraceptive | 8.0 |
| Woman sterilized | 5.5 |
| Not having sexual intercourse | 4.4 |
| Man sterilized | 4.4 |
| Trying to get pregnant | 4.4 |
| Diaphragm | 3.9 |
| Data missing | 2.5 |
| <i>Religious affiliation</i> | |
| None | 37.6 |
| Protestant | 29.2 |
| Catholic | 21.1 |
| Sikh | 5.8 |
| Muslim | 4.4 |
| Other | 1.8 |
| Data missing | 0.1 |
| <i>Previous request for postcoital contraception</i> | |
| Yes | 9.7 |
| No | 66.6 |
| Data missing | 23.7 |

GCSE = general certificate of secondary education. ONC = ordinary national certificate. HNC = higher national certificate.

A separate analysis of religious affiliation as a factor in familiarity with postcoital contraception was conducted because some of the religious categories were too small to allow logistic regression modelling.¹⁸ The proportion of women having heard of postcoital contraception was similar for women with no religious affiliation (274/330, 83.0%), Catholic women (152/185, 82.2%), and Protestant women (212/256, 82.8%), so these groups were amalgamated for comparison with the other groups: Sikh, Muslim and other religions. There was a significant difference between groups, with Muslim women least likely to have heard of postcoital contraception and the amalgamated 'no religious affiliation/Catholic/Protestant' group most likely to have heard of postcoital contraception (11/28 Muslim women (39.3%) versus 604/722 women in the amalgamated group (83.7%), $\chi^2 = 79.1$, 9 degrees of freedom, $P < 0.001$). Those in the Sikh and the other

Table 2. Logistic regression: variables significantly associated with women's knowledge of postcoital contraception.

| Variable | Adjusted odds ratio | (95% CI) |
|--|---------------------|-------------------|
| <i>Had heard of postcoital contraception</i> | | |
| Level of education ^a | | |
| GCSE/O level/ONC | 1.44 | (0.95 to 2.19) |
| A level/HNC/minor nursing | 2.08 | (1.08 to 4.00) |
| Polytechnic/university | 2.47 | (1.36 to 4.46)** |
| Method of contraception ^b | | |
| Condom/diaphragm/man sterilized | 4.38 | (2.51 to 7.65) |
| Pill/IUCD/injectable/woman sterilized | 3.34 | (2.21 to 5.05) |
| No contraception required | 2.39 | (1.26 to 4.54)*** |
| <i>Know can be used after unexpected sex</i> | | |
| Level of education ^a | | |
| GCSE/O level/ONC | 1.47 | (1.00 to 2.17) |
| A level/HNC/minor nursing | 2.04 | (1.18 to 3.51) |
| Polytechnic/university | 2.12 | (1.33 to 3.39)** |
| <i>Know can be used as a backup contraceptive method</i> | | |
| Age (years) ^c | | |
| 20-24 | 1.63 | (0.78 to 3.41) |
| 25-29 | 2.27 | (1.08 to 4.77) |
| 30-39 | 2.09 | (0.99 to 3.79) |
| 40-50 | 0.97 | (0.40 to 2.36)* |
| Have no children/no data ^d | 1.51 | (1.07 to 2.13)* |
| <i>Know correct time limits for its use</i> | | |
| Asked about emergency contraception before ^e | | |
| | 4.61 | (2.73 to 7.81)*** |
| Have no children/no data ^d | 2.42 | (1.53 to 3.85)*** |

CI = confidence interval. GCSE = general certificate of secondary education. ONC = ordinary national certificate. HNC = higher national certificate. ^aCompared with no education/missing data. ^bCompared with biological contraception/no contraception/missing data. ^cCompared with 16-19 year olds. ^dCompared with having one or more children. ^eCompared with having not asked about emergency contraception before/no data. * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.

religious categories fell between these two groups. Muslim women were less likely to have heard about postcoital contraception than the amalgamated group in each education category, although the difference was only significant for women who had no qualifications, where 5.0% of 20 Muslim women and 79.2% of the 395 women in the amalgamated group had heard of it ($\chi^2 = 55.4$, 9 df, $P < 0.001$). Analysis of the relationship between further knowledge of postcoital contraception and religious group was not undertaken owing to the small number of responses.

Of 678 respondents who had heard of postcoital contraception 434 knew that it could be used after unexpected sex (64.0%) or sexual assault (420, 61.9%). Compared with the number of women knowing about its use after unexpected sex, significantly fewer women knew that it could be used as a back up when other methods of contraception were known to have failed (286/678, 42.2%) ($\chi^2 = 78.5$, 2 df, $P < 0.001$). Sixty three of the 118 respondents using barrier contraception (53.4%) knew that postcoital contraception could be used as a back up. Few women thought postcoital contraception could be used routinely (50/678, 7.4%) or said they were unsure when it could be used (46/678, 6.8%). When logistic regression was used to model these responses, the results suggested that the higher the level of education the more likely the respondents were to recognize that postcoital contraception could be used after unexpected sex (Table 2). Those with no children were more likely than those with children to know that postcoital contraception could be used as a back-up contra-

ceptive method, while the proportion of women recognizing this fact increased with age until 39 years, after which it declined sharply (Table 2).

Only 13.6% of respondents (92/675) gave the correct 72-hour time limit during which postcoital contraception could be used effectively. Twenty eight per cent (189) answered that the time limit was 12 hours after sex, 20.3% said 24 hours and a further 12.0% gave a 48-hour limit; a quarter said they did not know the time limit while 1.2% said five days. Having no children and having asked for postcoital contraception before were the best predictors of accurate knowledge of time limits, though only 35.3% of previous users (30/85) knew the correct limit (Table 2).

Of 659 respondents 63.1% knew the way in which the time interval between intercourse and postcoital contraception should be calculated, naming the first rather than the last sexual act as relevant.

Respondents were asked from whom they thought postcoital contraception could be obtained and were provided with a list from which they could select several answers. The most commonly selected responses among 685 women were general practitioners (75.6%) and family planning clinics (67.7%). Sixty eight women (9.9%) said they did not know where postcoital contraception could be obtained.

A total of 690 women answered the question on source of information about postcoital contraception. The media was the most commonly cited source of information (51.6%). Only a fifth of respondents had been informed by a health care professional (20.1%), while 23.5% had heard from personal contacts and 2.5% from school; 5.9% did not know how they had been informed. When respondents' choices were coded into mutually exclusive categories, with the priority being given to health care professionals, there was no significant difference in the sources of information among those who used different contraceptive methods.

Discussion

It is likely that not all women who attended the surgeries during the sampling periods were offered a questionnaire. While the accuracy of the response rate is thereby compromised, this sampling is unlikely to have introduced any bias in the responses. Though potentially selective, the sampling method used is at least as valid as alternative methods such as postal questionnaires, which have their own difficulties and biases.¹⁹ Furthermore, the study was interested in the steps which could be taken in general practice to address any gaps in women's knowledge and therefore it was decided to sample women who attended general practice.

The study shows that the majority of women attending general practice knew of the availability of emergency contraception, but were poorly informed regarding its use. Women in this general practice study differed from women interviewed in an abortion clinic who were less likely to have heard of emergency contraception (65%⁷ compared with 79% in the present study). While the reasons for this difference could be many, this finding does suggest that extending conclusions from abortion clinic studies to women in general practice would be inappropriate.

A pattern of misinformation or partial knowledge ran throughout the responses to the questionnaire. Many women still believed that emergency contraception must be taken within 12 hours of unprotected intercourse, demonstrating the continued influence of the old name 'morning-after pill' and adding further weight to the arguments for the new name 'emergency contraception'. Many women did not know that emergency contraception can be used as a back up when other methods are known to have failed or after unexpected sex. The women also appeared to

be certain about their knowledge, with only a few women replying that they did not know the answers to any of the questions. They did, however, frequently hold mistaken beliefs. These results conform with research on general knowledge of contraception methods which has demonstrated that people tend to have incomplete knowledge and believe they know more than they do.²⁰

It was hoped that women using barrier methods of contraception would be better informed than those using other methods. While contraceptive method was strongly related to whether women had heard of emergency contraception, the main difference was between women who used contraception and women who did not, not between women who used different methods. This suggests that health professionals are not telling women they see about the possibility of using emergency contraception. This picture is supported both by the low number of respondents who had heard about emergency contraception from health professionals and by the low proportion who knew the correct time limit for its use, even among those who had asked for emergency contraception.

Although women who did not use contraceptives appeared to have the least information about emergency contraception and were potential users of emergency contraception, they were unlikely to be users of emergency contraception, particularly given the complexity of many of these women's attitudes towards contraception, sexuality and medical services in general.^{21,22} A general information campaign targeted at this group is therefore unlikely to have much impact.

This study suggests, in line with published guidelines,²³ that a good way to increase use of emergency contraception is to ensure that primary health care staff include information on emergency contraception in their consultations on contraception and safe sex, particularly for women and men seeking information on barrier methods. With more and more practices experimenting with distributing condoms in general practice, the opportunity is increasingly arising to inform both users of condoms and diaphragms about using emergency contraception as a back-up contraceptive method.

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