ORIGINAL PAPER 5

Why do some women refuse rubella screening?

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SUMMARY. The reasons why 250 women declined rubella antibody screening were elicited by a postal questionnaire. Responses are contrasted with those of women who accepted screening, and management implications for future programmes are discussed.

Introduction

When the Joint Committee on Vaccination and Immunization recommended that rubella vaccination should be offered to all sero-negative women of child-bearing age (DHSS, 1976), general practitioners were presented with a complex practical problem.

Rubella vaccination of schoolgirls aged between 11 and 14 years began in the United Kingdom in 1970, so that by 1976 the oldest of the vaccinees was no more than 21 years old, leaving the greater part of the adult female population with a rubella susceptibility rate estimated at between 10 and 20 per cent. On the list of every general practitioner there were thus a number of fertile adult women at risk of intranatal rubella infection.

How were these women to be identified? For the women attending antenatal clinics (in hospital or general practice) the screening problem was easily solved, albeit one pregnancy too late. A number of studies (Goodman, 1976; Rose and Mole, 1976; Gringas *et al.*, 1977; Black, 1981) showed the value of opportunistic screening for women receiving oral contraception or when consulting for other reasons (Clubb *et al.*, 1981). More recently there have been reports of general practice screening programmes aimed at all women not known to be immune (Rowlands and Bethel, 1981) and all women of child-bearing age (Hutchinson and Thompson, 1982).

What about the women who decline sero-testing? Why is it that when groups of women are offered the opportunity of rubella antibody screening, a proportion of them do not accept? Do they form a group about whom there should be a special anxiety? Would a different screening system be better suited to their needs, or is it that they have no need for screening? In an attempt to answer these questions, postal questionnaires were sent to women who declined to attend a screening programme during the year immediately following the 1979 rubella campaign.

The responses of this group are presented here and contrasted with those of women who accepted screening.

Method

In a single general practice, between July 1979 and June 1980, 1,905 women in the 15–35 years age range were invited by post to visit the practice for rubella antibody screening. A reminder letter was sent to each woman who did not attend for the first appointment. Screening was accepted by 1,247 women (65.4 per cent).

A postal questionnaire, together with an explanatory letter and a stamped addressed envelope, was then sent to each of the 650 women who failed to make any contact, after current addresses had been rechecked from records and the age-sex register. The questionnaire established age, marital status, social class, parity and previous history of rubella infection and/or vaccination. Closed questions on recollection of rubella vaccination publicity and reasons for declining screening were asked, together with open questions seeking any other reasons for not attending and suggestions for the improvement of the service offered. Throughout the year during which this study took place, women were subjected to the national publicity campaign and national publicity literature was displayed in the practice's reception area.

Results

Questionnaires were returned by 250 women (38.5 per cent), 15 of whom requested screening.

Although the proportion of 15–19-year-olds was 15.2 per cent for the whole study group, only 20 (6.9 per cent) of the respondents were in this age range.

There were 74 nulliparous women among the respondents, significantly less ($\chi^2 = 7.9$; $P < 0.01$) than there were among those who attended. Marital status and social class—the latter weighted towards classes IIIc, IIIm and IV—were similar for both groups.

A history of previous rubella infection was recorded by 127 women (50.8 per cent). A further 10 were unsure on this point. Previous vaccination was reported by 72

Table 1. Reasons for declining offer of rubella screening.

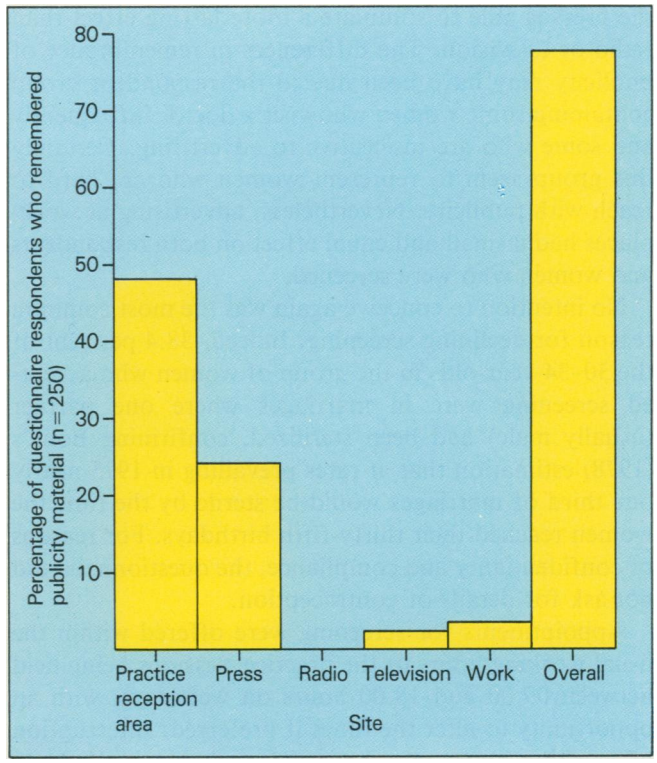
Reason given	Percentage of questionnaire respondents (n = 250)
No further pregnancies	31.6
Inconvenient appointment time	20.8
Frightened of needles	18.8
Forgot appointment	18.8
Too busy to attend	10.4
Previously found immune	7.2
Moved from practice	6.4
Family problems/personal ill health	5.6
Currently pregnant	4.8
Unimportant to be protected	1.6

women (28.8 per cent) and an additional 27 thought they might have been immunized.

Three responses were allowed to the question, 'Why did you not come for screening?' Some women chose up to three options, while 43 women chose instead to answer the open question, 'Any other reasons for not attending?' The results are shown together in Table 1. Eighteen women also made known their views on why doctors should not write to patients.

Regarding their recall of publicity about rubella, 55 women (22.0 per cent) were unable to remember material from any source (Figure). Comparison with answers from the women who were screened showed that respondents had significantly less remembrance of publicity displayed in the reception/waiting area ($\chi^2 = 146.9$; $P < 0.01$) and shown on television ($\chi^2 = 56.6$; $P < 0.01$). However, press publicity was remembered better by respondents than attenders ($\chi^2 = 30.0$; $P < 0.01$).

Suggestions on improving the rubella screening service were offered by 78 women and are shown in Table 2.



Recall of National publicity about rubella. (No respondents reported seeing advertising/hearing publicity in more than one place although given the opportunity to do so.)

Table 2. Ways of improving the rubella screening service suggested by 78 women.

Suggestion	Percentage of questionnaire respondents
Arrange test while visiting doctor for other reason	13.2
Arrange tests at work	11.2
Arrange walk-in facilities	2.5
Arrange out-of-hours appointments	0.4
Arrange for nurse to call at home	1.2
Appointment sent out too early	0.8
Need more publicity	1.2
Doctor should give personal advice before decision	0.8

Discussion

The use of attendance rates to measure the response to a rubella campaign (or, indeed, any other health education programme of a similar nature) is an oversimplification of a complex situation. No account is taken of those women who are reached by the campaign but for whom it has no practical relevance. Attendance rates alone will not reveal whether some part of the message or the campaign methodology is flawed, leading to a disappointing response rate.

The personal characteristics of the women who responded to the questionnaire differed little from those who accepted screening, other than that the respondent group contained significantly fewer nulliparous women.

The national publicity campaign was well advertised in the national and minority press and on radio and television. When recollection of this publicity was compared between the two groups, considerable differences were found. Less than half the respondents could recall seeing the reception area publicity compared with more than 86 per cent of those women who were screened. Among the relatively few respondents who remembered publicity from other sources, the effect of the press was much greater than that of television. No respondent recalled publicity material on the radio. These findings reflect a trend already apparent among those screened (Hutchinson, 1983) and seem to support the thesis that

the press is able to stimulate a more lasting effect than radio or television. The differences in remembrance of publicity may have been due to the respondent group containing some women who visit a doctor infrequently and some who are insensitive to advertising. Certainly this group seem to represent women who are hard to reach with publicity. Nevertheless, advertising at workplaces had a small and equal effect on both respondents and women who were screened.

No intention to conceive again was the most common reason for declining screening. Indeed, 38.4 per cent of the 30–34-year-olds in the group of women who accepted screening were in marriages where one partner (usually male) had been sterilized, confirming Bone's (1978) estimation that at rates prevailing in 1975 nearly one third of marriages would be sterile by the time the women reached their thirty-fifth birthdays. For reasons of confidentiality and compliance, the questionnaire did not ask for details of contraception.

Appointments for screening were offered within the usual working hours of the practice, sessions being held between 09.00 and 18.00 hours on weekdays, with an opportunity to alter the times if preferred. Interruption of working hours may have deterred some women in full-time employment from attending. It is also possible that inconvenient appointment times provided an acceptable excuse. Nevertheless, the offer of a Saturday morning or late evening session might have encouraged a few of these women to accept screening.

Being screened while visiting the doctor for another reason was the most popular suggestion for improving the service and at first seems a method with much to commend it. However, it would fail to reach those women who do not come to see the doctor. Similarly, screening at the workplace would have limited value, particularly if the result was not included in the general practice record.

A disturbing feature of the questionnaire response was that half the women reported a history of previous rubella infection. Comparison of rubella history with rubella antibody level among women who were screened showed that 21 per cent of susceptible women reported a positive history of rubella infection. This underlines the difficulty of diagnosing rubella, particularly in those cases which occur sporadically. It therefore seems probable that some of the respondents felt they were protected when they were not. It is necessary to educate women in order to ensure that a history of rubella infection does not dissuade parents from having their schoolchildren immunized nor deter young women from accepting screening.

From the total study group of 1,905 women, 400 (21 per cent) neither accepted screening nor replied by questionnaire. About 25 of these women were found to have moved practices during the course of the study and there may have been a number who moved address without registering the change. Of the remainder, a record review carried out six months after completion of the study found, from 286 traceable records, that 57 women had been receiving contraceptive services from the practice during the study, and a further 18 who were pregnant would have had routine rubella screening. More than a quarter of the women traced were thus in regular contact with a doctor in addition to some who consulted for other 'medical' reasons and others who may have been attending the local area health authority family planning clinic. These women could all be reached by opportunistic screening.

There remains a proportion of the original study group, perhaps up to 15 per cent, who are either untraceable or unapproachable. These women will have a rubella susceptibility rate of between 5 and 13 per cent (Hutchinson and Thompson, 1982) and, regrettably, there will be some who will remain rubella susceptible and unscreened until they present in pregnancy. They are at risk of intranatal rubella infection and there seeems little chance of offering prevention until they have risked at least one pregnancy.

From a compilation of the responses of the women who answered the questionnaire and the meagre data available on those who made no contact, it appears that there are three broad groups from which can be made some predictions for future screening strategy:

1. The first group is comprised of those who have no need for screening—that is, those who wish to have no more children, have previously been found to be immune or have documentary evidence of vaccination.

2. In the second group are women who may have declined screening because of various commitments or problems which prevented them from accepting. These women could be reached by opportunistic screening, especially during consultations for family planning.

3. Finally there are those who are unlikely to accept screening except perhaps as part of antenatal care, or who prove impossible to contact. This group provides the best possible reminder of the value of the immunization programme for schoolgirls.

Vigilance in the prevention of intranatal rubella infection will always be necessary, but we can now see light at the end of the tunnel. By offering screening to all women of child-bearing age in the practice, and identifying those who decline so that they may be offered opportunistic screening, the task can be reduced to routine screening offered at one or two yearly intervals to girls aged 15–17 years. This is an easily managed task since the numbers are relatively small and, together with the school immunization programme, should ensure that most young women are protected against rubella before child-bearing begins.

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Of veins, IVs and little rubber balls

A 35-year-old woman with chronic relapsing pancreatitis was recently admitted to the hospital. A peripheral intravenous infusion was started, and medication was given for pain. The patient had been discharged from the same hospital only four weeks before.

What made this remarkable was the ease with which the peripheral intravenous line was started. Just a month before, after a number of unsuccessful attempts with the patient's peripheral veins, a subclavian line had been required. The patient had disliked the procedure and, knowing that she would be readmitted sooner or later, had asked if something could be done to avoid this measure in the future.

Upon her discharge she purchased a small rubber ball, which she was instructed to squeeze whenever possible. Within a week she was able to do so 1,000 times, although this marathon procedure regularly produced a 'burning pain' in her forearm. By the time of her second admission, veins were visibly protruding above the dorsal surface of her hand. She had never noticed these before, nor had I.

Other patients with chronic illnesses and 'poor veins' may well profit from such an exercise program.

Source: Davis, J. M. (1983). Letter to the editor. *New England Journal of Medicine,* **308,** 53.