Feasibility, reliability and women's views of a risk scoring system for cervical neoplasia in primary care

CLARE E WILKINSON

TIM J PETERS

IAN M HARVEY

NIGEL C H STOTT

SUMMARY

Background. *A risk assessment scale for cervical neoplasia has been developed which gives a risk score based on four factors: level of education, current smoking status, number of years of oral contraceptive use and number of sexual partners ever.*

Aim. *A pilot study was undertaken to determine the feasibility and acceptability of a self-report data form, used to assess risk of cervical neoplasia, and the test–retest reliability of women's responses to the questions.*

Method. *A sample of women attending one general practice were asked to complete a self-report data form which included some highly personal questions, and a questionnaire assessing their level of difficulty and discomfort completing the form. Women were sent a second self-report data form four weeks later in order to assess test–retest reliability.*

Results. *There was a high level of cooperation with the study (94% initial participation rate), little evidence of discomfort with the questions posed, and high test–retest reliability.*

Conclusion. *The results of this pilot study have positive implications for a large prospective study evaluating the predictive power of the risk scale in relation to the result of the cervical smear test.*

Keywords: cervical cancer; at risk groups; risk assessment; cervical screening.

Introduction

AN earlier paper described the scientific background to the development of a risk assessment scale for use in cervical screening.[1] The risk scoring system was derived from epidemiological surveys[2-7] and comprised four independent risk factors appropriately weighted to give a risk score: women who were educated to A-level or higher scored zero; women educated to a different level scored one. Non-smokers scored zero and smokers scored one. Women who had used oral contraceptives for fewer than five years scored zero; women who had used them for five years or more scored one. Women who had had only one sexual partner scored zero; women who had had two partners scored one; women who had had three or more partners scored two. Scores could therefore be between zero and five.

As a next step, a pilot study was undertaken to assess the feasibility and acceptability of using the risk scale to generate a risk score for cervical neoplasia in individual patients. The test–retest reliability of risk scale completion was also assessed. Participation depended on women's willingness to answer highly personal questions in the context of a primary care consultation. The validity of the risk scale in the prediction of abnormal cervical smears is the subject of a larger study.[8]

Method

The study was carried out in Cardiff in 1989. One hundred and nine consecutive women patients eligible for cervical screening and attending routine surgery appointments with one of two doctors in a large urban group practice were given a written invitation to participate in the pilot study. Women aged under 25 years were only included if they had ever had a cervical smear. Explanations from women who declined to participate were collected by the surgery receptionists at the time of recruitment.

After their routine consultation, the women were interviewed individually by C W and asked to complete 12 questions on a self-report data form. The form asked for the four items required for the risk score, together with basic sociodemographic details and other potentially relevant factors. Where possible, responses were validated by checking against primary care records. The sociodemographic questions related to: age, marital status, own occupation or of partner/father/guardian as appropriate, number of children and number of pregnancies. Others enquired about: contact with genital warts, number of sexual partners the partner had had, and level of confidence in the partner's fidelity. Women were also asked their preference for the mode of obtaining this information. The confidential handling of their answers was explained. Women were offered a chance to withdraw their participation at this stage.

Having completed the self-report form, an additional questionnaire was administered which contained modified Likert rating scales for women to assess the level of difficulty and discomfort in answering sensitive questions about their own and their partner's number of sexual partners and about occupation.

If women were prepared to complete the self-report form a second time they were sent a duplicate blank self-report form by post one month later with a stamped addressed envelope; one reminder letter was sent.

Results were analysed using the statistical package *SPSS PC+*.

Results

Of the 109 women initially approached, 102 (94%) participated in the study. The seven who declined said that it would have been inconvenient to spend the extra time involved with study participation. All of the remaining 102 women completed the interview, and all but one agreed to complete a second data form four weeks later.

C E Wilkinson, MRCGP and N C H Stott, FRCGP, Department of General Practice, University of Wales College of Medicine, Cardiff. T J Peters, PhD and I M Harvey, MFPHM, Health Care Evaluation Unit, Department of Epidemiology and Public Health Medicine, University of Bristol.
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The mean age of the 102 women was 38 years, range 17 to 66 years; 68% were in social classes 1–3N. Of the sample, 79 were married or cohabiting and 23 were single, separated, divorced or widowed. The mean number of living children was 2.0, the mean number of pregnancies was 2.6.

Regarding risk factors associated with the development of cervical intraepithelial neoplasia, 21 women were current smokers; 57 had not completed A-level education or equivalent; and 42 had taken the oral contraceptive pill for five or more years. Regarding number of sexual partners, 27 women recorded that they had had one sexual partner, 28 that they had had two, 28 had had between three and five, and 19 had had six or more sexual partners. Although not a component of the risk score, 25 women recorded that their partner had had one partner, 18 that their partner had had two partners, 35 between three and five partners and 22 estimated that their partner had had six or more partners (two women considered the question to be inapplicable).

Eight women had a zero risk score, 19 had a risk score of one, 26 had a score of two, 30 scored three, 14 scored four and five women had a risk score of five. Two risk categories were chosen for the presentation of results in the main study: those with scores of 0–3 and those scoring four or five. Thus, 18.6% of women were in the higher risk band.

When asked what preference they had for the mode in which such forms should be administered, 75 women said they would prefer a self-completion form to an interview, seven said they would prefer an interviewer to administer the form and 20 expressed no preference.

The degree of discomfort experienced by women when answering questions about their own number of sexual partners and their partner's number of sexual partners is shown in Table 1 together with the degree of discomfort experienced when answering questions about occupation, for comparison. Overall, women appeared to experience little discomfort when answering questions about numbers of sexual partners. The ease with which women could recall their own number of partners or estimate their partner's number of partners is also shown in Table 1, together with occupation, for comparison. It appeared that while women had little difficulty recalling their own number of partners, some difficulty was reported for estimating the partner's number of partners. Only 3% of women were not confident of their partner's current fidelity.

Table 1. Women's reported degree of discomfort and ease of recollection in answering questions regarding number of sexual partners and occupation.

	No. of women answering questions on		
	No. of partners	Partner's no. of partners[a]	Occupation
Degree of discomfort answering question			
Very comfortable	55	64	81
Comfortable	35	26	14
Uncomfortable	10	8	7
Very uncomfortable	2	3	0
Ease of recollection/ estimation answering question			
Very easy	87	51	95
Easy	12	19	6
Difficult	2	25	1
Very difficult	1	6	0

[a]One woman answered neither question on partner's number of partners.

A total of 86 of the 101 women sent a second data form one month later completed the form (85%). The results were similar to the first data form responses; most changes could be explained by recorded life events or the passage of time, for example, changes in age and number of children. The three changes in smoking status were all in accordance with changes noted in the primary care records. The one change in educational level resulted from a teenager stating on her second form that she had obtained her A-levels in the interim. There were no changes in oral contraceptive pill usage according to the self-report forms and checking where possible with primary care records did not reveal any inconsistencies. There were two increases in the women's statements of number of sexual partners and one decrease. For the reliability of the remaining items, there were five and four changes, respectively, for estimates of partner's number of partners and confidence in partner's fidelity.

For none of these changes was there any systematic difference across the social classes. Moreover, examination of the initial forms of the 16 non-respondents revealed no clear differences from the respondents in terms of, for example, social class and risk status.

Discussion

The results of this feasibility study reveal a high level of participation among the women, both at initial recruitment and on completion of the form a second time. The non-manual groups were over-represented in the sample in comparison with the total population of South Glamorgan (68% compared with 47%).[9] Most women appeared to be comfortable with questions about their own and their partners' sexual histories in this confidential setting. The variability between individuals in terms of their number of sexual partners and the similarity across the sexes provides some evidence that women are prepared to answer these questions reliably.

There was excellent test–retest reliability across all social classes and few missing data. It is therefore reasonable to conclude that reliable responses to the self-report form would be obtained for all social classes.

An assessment of the validity of individual items was not an aim of this study; nevertheless, the information on smoking and current oral contraceptive use was confirmed where possible by checking patients' records. A comprehensive assessment of criterion validity was difficult for education and clearly not possible for items regarding sexual behaviour. For the purposes of a risk assessment, though, it is the reliability, acceptability and predictive power of risk factors that are the crucial issues.

Although acceptability has been demonstrated, in any practical application of the risk scoring system confidentiality remains an important issue. The aim of future development work is therefore to design a method of collecting risk information which uses only the final score, rather than the woman's responses to individual questions, to arrive at a management decision regarding screening.

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Address for correspondence

Dr C E Wilkinson, Department of General Practice, University of Wales College of Medicine, Llanedeyrn Health Centre, Maelfa, Cardiff CF3 7PN.