Cervical smear screening: questionnaire study of histories and attitudes of patients with squamous cervical carcinoma

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Objective. To determine why invasive cervical carcinoma still occurs despite the availability of cervical smear screening services.
Design. Questionnaire survey and retrospective study of patient records of women who attended a gynaecological oncology out-patients clinic from 13 February 1997 to 30 June 1997.
Setting. Public hospital, Hong Kong.
Patients. Ninety-nine women (median age 53 years; range, 30-79 years) who gave a history of squamous cervical carcinoma.
Main outcome measures. The date of the last cervical smear test prior to the development of cervical carcinoma; reasons for non-attendance; attitudes to screening; and the stage and histological diagnosis of disease.
Results. Only 19 (19.2%) of the 99 patients had received routine cervical smear testing during the previous 3 years prior to their disease; 76 (76.8%) had not been tested within the past 10 years. The major reasons for not having been tested included being unaware that cervical carcinoma is preventable by screening or can be asymptomatic, being too busy to go for screening, and not knowing where to go for screening. After receiving treatment, 17 (17.2%) of the 99 patients still thought screening was unnecessary and 20 (20.2%) had no idea how frequently smears should be taken.
Conclusion. The greatest barrier to effective cervical screening is patient ignorance. Public education about cervical smear screening in Hong Kong is needed.

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Key words: Carcinoma, squamous cell; Cervix neoplasms; Knowledge, attitudes, practice; Mass screening; Patient acceptance of health care; Questionnaires

Introduction

Cervical smear screening substantially reduces the morbidity and mortality rates of invasive cervical carcinoma. The cumulative incidence of cervical carcinoma was shown to decrease by 90.8% and 93.5% when smears were taken at 3-year and 1-year intervals, respectively.[1] Adab,[2] however, has recently reported that almost 50% of all women in Hong Kong have never undergone a cervical smear test. And at the Queen Mary Hospital, 109 and 85 new patients presented with invasive cervical carcinoma in 1995 and 1996, respectively.[3] The aim of this study was to determine whether the continued occurrence of cervical carcinoma is accountable by a failure to screen, and to identify the reasons for patient non-compliance to cervical screening.

Methods

All patients with a history of squamous cervical carcinoma who attended the Sai Ying Pun Gynaecological Oncology Out-patients Clinic of the Tsan Yuk Hospital from 13 February 1997 to 30 June 1997 were enrolled in the study. Participants were interviewed using a standardised questionnaire. The following data were obtained: whether cervical smear screening had

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been performed prior to the diagnosis of cervical carcinoma and if so, the date of the last cervical smear test; the reason(s) for not participating in cytology screening; and each patient's current attitude to screening. The correlation between the questionnaire answers and the disease stage and histology (as retrieved from previous patient admission records) was then calculated by using the Pearson's correlation test.

Results

A total of 127 patients were seen during the study period. Histological examinations of biopsy samples had identified 99 (78.0%) squamous carcinomas, 21 (16.5%) adenocarcinomas, 5 (3.9%) adenosquamous carcinomas, 1 (0.8%) lymphoma, and 1 (0.8%) clear cell carcinoma. All 99 patients who had a history of squamous cervical carcinoma participated in this study, and all of them had been treated by either surgery or radiotherapy at the Queen Mary Hospital. Forty-nine (49.5%), 18 (18.2%), and 32 (32.3%) patients had had the cervical cancer diagnosed within 5 years, between 5 and 10 years, and beyond 10 years of the present study, respectively. The median patient age was 53 years (range, 30-79 years).

Eighty-five (85.9%) of the 99 patients had presented because of the presence of vaginal bleeding or discharge, whereas 11 (11.1%) patients had the diagnosis of cervical carcinoma made during their regular check-up. The remaining three (3.0%) patients were found to have the disease during a body check-up that they had attended for various reasons: one patient attended following a recommendation by friends, the second attended for 'advancing age', and the third attended because a relative had recently had a gynaecological disease diagnosed. Ten (71.4%) of these 14 asymptomatic patients had stage I disease; of the remaining four, one had never been screened previously and three had received only one other smear test 1 to 3 years earlier.

Only 19 (19.2%) of the 99 patients had been screened for cervical cancer within the previous 3 years and the results of all 19 patients had been negative. Seventy-six (76.8%) patients had not been screened for 10 years or more (Table 1). The 10-year delay in screening was found in all age-groups ($P>0.05$). Table 2 shows the relationship between the interval from the last smear test to disease diagnosis and the disease stage. There was no significant correlation between the two variables, possibly due to the small sample size. Failure to screen seemed to be an important problem, not only for patients whose disease had been treated previously, but also for those with recently diagnosed disease. Fortunately, there were no cases of advanced disease that had been missed by cervical screening.

Common reasons given by patients for not having regular screening included being unaware of the need for regular screening (83.8%), not having any symptoms (82.5%), being too busy (23.8%), and not knowing where to go for screening (26.3%). Two (2.0%) patients had previously attended family planning clinics to receive a gynaecological check-up but their request for cervical screening was refused because they no longer required contraception; they then presumed that routine screening was no longer necessary.

Table 1. Interval between last smear and disease diagnosis of patients with squamous cervical carcinoma

Interval (years)	No. of patients* Age					
	<35 years	35-44 years	45-54 years	55-64 years	≥65 years	Total
≤3	2 (1)	9 (6)	2 (1)	4 (1)	2	19 (9)
4-10	0	1	2	1	0	4 (0)
>10	5	12 (3)	21 (2)	22	16	76 (5)
Total	7 (1)	22 (9)	25 (3)	27 (1)	18 (0)	99 (14)

* Figures in parentheses denote the No. of patients whose disease was diagnosed by screening

Table 2. Distribution of interval from last smear to disease diagnosis according to disease stage

Interval (years)	No. of patients* Disease stage				
	I	II	III	Unstaged	Total
≤3	9 (6)	8 (3)	0	2	19 (9)
4-10	1	3	0	0	4 (0)
>10	35 (4)	26 (1)	12	3	76 (5)
Total	45 (10)	37 (4)	12 (0)	5 (0)	99 (14)

* Figures in parentheses denote the No. of patients whose disease was diagnosed by screening

Table 3. Response given by patients when asked whether they would advise their families and friends to be screened for cervical cancer

(3a) Response of "yes" (61/99; 61.6%) Site of screening	Patients, n=61 No. (%)
Government clinics or mother-and-child health centres	21 (34.4)
Family Planning Association	10 (16.4)
Private sector	7 (11.5)
Any of the above	12 (19.7)
No idea where the service was available	11 (18.0)
(3b) Response of "no" (38/99; 38.4%) Reason	**Patients, n=38 No. (%)**
They do not need my advice	14 (36.8)
No idea where screening is available	1 (2.6)
Screening is unnecessary	17 (44.7)
Family members would be too busy	2 (5.3)
Seldom see family members	3 (7.9)
Did not want others to know of her history of cancer	1 (2.6)

Sixty-one (61.6%) of the 99 patients stated that they would advise their families and friends to be screened routinely for cervical cancer, but 11 (18.0%) of these patients did not know where the service was available (Table 3). Seventeen (17.2%) patients considered routine screening to be unnecessary if symptoms were absent. When asked about the frequency of routine smears that patients considered appropriate, 37 (37.4%) either thought smears were unnecessary or had no idea about the appropriate frequency.

Discussion

Despite the availability of the cervical smear screening test, cervical cancer is still being diagnosed in Hong Kong. Possible causes are the failure of patients to attend screening programmes, rapid tumour growth between subsequent smear tests, faulty technique when taking and preparing the smear, error in interpretation of the smear results by the cytopathologist, a failure of the clinician to take appropriate action for abnormal smear results, and non-compliance of patients to the doctor's advice or follow-up. In this study, 76.8% of patients with squamous cervical carcinoma—a cancer which is theoretically preventable by cervical cytology screening—had not received a smear test for 10 years or longer. This observation strongly suggests that non-attendance to routine cervical screening is a major risk factor for the development of squamous cervical carcinoma. Non-attendance to screening occurred in all age-groups. Common reasons for not attending screening included patients being unaware of the need for screening, the absence of symptoms, patients not knowing where to go to, and time constraints.

The two patients who had attended family planning clinics for routine gynaecological examination had misinterpreted the information given by the staff; not being offered the smear test had made the patients believe that they were no longer at risk for the development of cervical cancer. In addition, 38 (38.4%) patients indicated that they would not advise their families and friends to attend screening, and 17 (44.7%) of these patients believed that screening was not necessary. These findings represent an important potential problem, because the patients' misunderstanding can be passed onto their friends and families. A substantial proportion (12.1%) of patients indicated that they did not know where screening was offered.

A majority (61; 61.6%) of the 99 patients suggested that their family members should have cervical screening every year or more frequently. Although this frequency of testing is not appropriate or cost-effective, the patients' reply is understandable in view of their disease history. Their reply, however, again reflects the confusion among the general population about screening, no doubt owing to inadequate education about cervical cancer and the lack of an effective screening programme in Hong Kong. All 19 women who had been screened within the previous 3 years had presented with vaginal bleeding or discharge, an observation which emphasises the need for patients to seek medical advice if these symptoms are present, despite having had previous negative smear test results.

There are now many services in Hong Kong that provide opportunistic or voluntary cervical cytology screening tests. These services include the Well-Woman Clinics and Mother-and-Child Health Centres,

which are run by the Department of Health, and clinics run by the Family Planning Association of Hong Kong and private practitioners. However, a well-organised screening programme that covers the entire special administrative region does not exist. The availability of present screening services should be made known to the public, and clinics offering screening services should be conveniently located and have flexible opening hours to encourage attendance. The public should be educated about cervical cancer and made aware that cervical smear screening can prevent the development of this disease. Ideally, a uniform cervical smear screening programme that has clear guidelines for the frequency of screening—such as every 3 years, according to the schemes in the United Kingdom and Canada[4,5]—and that has efficient call and recall systems[4] should be established in Hong Kong.

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