

JA Dickinson
SYC Chan

Randomised controlled trial of doctor education to increase cervical screening in private practice

Key Messages

1. An interactive continuing medical education workshop with emphasis on skills training may improve private general practitioners' knowledge and behaviour in taking Papanicolaou smears.
2. Further enabling factors (ie beyond education) may be needed before primary care practitioners can increase smear rates substantially.

Introduction

In Hong Kong, cervix uteri cancer was the fourth commonest cancer and the seventh commonest cause of death for women in 1999.¹ Over the past 15 years, there has been a slow overall decrease in the incidence and mortality rates of cervical cancer in Hong Kong.² This may be attributed to the low coverage of the cervical cancer screening test—Papanicolaou (Pap) smear.

Most screening services in Hong Kong are provided by government or semi-government organisations. A study reported in 2001 found that only about half (53%) of the questioned private primary care practitioners (GP) performed Pap smear tests.³ Most private GPs have limited knowledge of, and many have no post-graduation experience in, clinical gynaecology. Skills learned as an undergraduate have either never developed or atrophied. Interventions are needed to improve GPs' knowledge of, and skills in, performing gynaecological examinations and Pap smear tests. Changing doctors' behaviour through educational interventions is difficult.⁴ Interventions aimed at changing behaviour should be multifaceted, and carefully focused on learning needs and barriers to change.

Aims and objectives

This study set out to determine if a behaviour-focused, brief but intensive education workshop with follow-up would be effective in changing the knowledge, attitude, and practice (KAP) of cervical cancer screening procedures in a group of private GPs.

Methods

This study was conducted from January 2002 to April 2003. We undertook a controlled trial of an education programme for practitioners who were currently performing no or few Pap smears. We ran a half-day workshop including lectures, and practical skills-learning sessions using pelvic models and volunteers acting as 'programmed patients' to have a Pap smear. The study group attended the Pap smears workshop and the control group attended an alternative workshop focused on cardiovascular disease prevention in women through lifestyle modification.

Enrolment and randomisation

Two hundred and twenty-one applications were received. Only 116 met the selection criteria. Among them, 61 were randomised and 55 assigned by subject availability to the intervention or control group. Targeted doctors were stratified by language preference. Those in each language preference group who were available on both dates of the study and control workshops were randomly allocated in pairs. Although 60 participants were assigned to the Pap smear workshop and 56 to the women's health workshop, only 46 and 48, respectively, attended. Other doctors who were not available on both dates were assigned to the groups according to language preference and the date they were available. The doctors did not know their assigned group at enrolment.

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Department of Community and Family Medicine, The Chinese University of Hong Kong

JA Dickinson, SYC Chan

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Principal applicant and corresponding author:
Prof JA Dickinson
Dept of Community & Family Medicine
4th Floor, School of Public Health
Prince of Wales Hospital
Shatin, Hong Kong

Present address:
Department of Family Medicine
University of Calgary
UCMC North Hill
1707, 1632 - 14th Avenue NW
Calgary, AB T2N 1M7
Canada
Tel: (1-403) 210 9213
Fax: (1-403) 210 9205
E-mail: dickinsj@ucalgary.ca

Table. Characteristics of participants

Characteristics	Study, n=41	Control, n=37
Sex: male*	29 (71%)	25 (68%)
Age [†]	55±12	55±11
Medical education: Hong Kong*	17 (41%)	14 (38%)
Nature of practice: solo*	33 (80%)	35 (95%)
Years since graduation [†]	30±11	29±11
Years in private general practice [†]	15±8	15±10

* Data are shown as No. (%)

[†] Data are shown as mean±standard deviation

Intervention

The workshops, lasting about 3.5 hours, were conducted on a Sunday afternoon. Each workshop was conducted twice, in English and Cantonese. The workshops included information about cervical cancer screening, counselling skills, and smear-taking skills. About 4 weeks after the workshop, an academic detailer visited the practice of half the workshop participants to discuss the workshop, and to help the GPs implement strategies to encourage their patients to have a Pap smear.

Main outcome measures

The main outcome measure was the number of Pap smears performed by participating doctors in both groups 4 months before and after the workshop, as provided by their pathology laboratories. Changes in KAP were evaluated by a self-administered questionnaire at the beginning of the workshop and 4 months later. The participants also completed a workshop satisfaction questionnaire.

Results

Characteristics of the doctors

Two hundred and twenty-one applications were received (response rate, 15.8%); 78 completed both the pre- and post-test questionnaires. No significant socio-demographic differences were found between those who were included and excluded from the analysis or for those in the study or control groups. Most participants were male, middle-aged, and in solo practice (Table).

Knowledge

Three questions comprising a total of eight items were used to assess Pap smear knowledge. A significant increase, from pre-test to post-test, in the number of doctors who correctly answered the best interval for repeating a regular Pap smear test was found in the study group only ($P=0.002$).

Attitude

Eight questions were used to assess the attitude of the participating doctors. All had positive attitudes towards Pap smear tests; did not think that women who need Pap smears should go to government or public clinics rather than private general clinics; and disagreed that male doctors were

unsuitable to perform Pap smear tests. Only minor and insignificant changes from pre-test to post-test were found in both groups.

Self-reported behaviour

In the post-test, the intervention group doctors reported more frequent Pap smear tests ($P=0.002$). Significantly more doctors in the intervention group reported that they discussed the Pap smear test with their patients (median increase from 30% in the pre-test to 50% in the post-test). They also reported greater opportunistic Pap smear offers when women came for non-gynaecological problems. However, many of the physicians in both groups found counselling women to have Pap smear tests difficult.

Number of Pap smear tests performed

Of the 57 (61%) doctors for whom laboratory data were available, 52% of the intervention group submitted more smears for analysis compared to only 32% in the control group. Of the 27 doctors in the intervention group who had done any smears in the previous 8-month period, the median number of smears taken increased from three to seven ($P\leq 0.001$). No significant change was seen in the control group. An intention-to-treat analysis showed similar results for both the overall and the randomised groups.

Detailer visit

Of the 19 doctors in the intervention group selected for the detailer visit, all the female but only five (out of 12) male doctors accepted the visit. These physicians did not report changes in behaviour consequent to the detailer visit. However, both groups had similar improvements in the number of Pap smears performed as reflected by laboratory data.

Discussion

This educational intervention study has attempted to demonstrate the effectiveness of a half-day interactive educational workshop on Pap smears for improving cervical cancer screening. Unfortunately, the study was confounded by the volunteer effect, difficulties with randomisation, retrieving relevant medical records, and low response rates to the evaluation surveys.

The prior positive attitudes of the study doctors most likely minimised the differences observed between the groups in the outcome analysis. In addition, the study was only able to assess short-term changes. As has been well established in the literature, attitude change does not always lead to behaviour change; therefore, a longer-term follow-up is needed to assess the long-term benefit of this intervention.

The low acceptance of a detailer visit by male doctors was unexpected. Some expressed concern as to why the academic detailer should come to check/audit their practice.

Elsewhere, academic detailers have been effective at changing physician practices. These findings raise concerns about the effectiveness of including a detailer visit in future continuing medical education courses.

Conclusions

This education workshop—comprising lectures, discussion, role-play with simulated patients, on-site demonstration, and hands-on practice with pelvic models—appeared to improve the practice and behaviour of private GPs in counselling, offering, and performing Pap smear tests, although several limitations have to be considered when interpreting these results. Continuing medical education courses aiming at changing the behaviour of doctors should consider moving from traditional lectures to an interactive workshop with hands-on practice and feedback. Primary care doctors in Hong Kong should be given more opportunities and incentives to enhance their ability to bring up the subject of Pap smears with eligible women in a culturally acceptable manner, and to perform Pap smear tests at regular intervals on an ongoing basis for patients who are under their care.

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