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SOCIAL ISSUES IN REPRODUCTIVE HEALTH

Factors affecting uptake of cervical cancer screening among Chinese women in New Zealand

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Abstract

Objective: To examine the factors affecting uptake of cervical cancer screening among women born in China now living in Auckland, New Zealand. *Method:* A community-based pilot study of 260 women surveyed by questionnaire between November 2006 and February 2007 to ascertain the uptake of cervical screening. *Results:* Of 234 returned questionnaires, 152 women (65%) reported being screened in New Zealand and 56% had been screened in the last 3 years. The 4 most important predictive factors affecting uptake were the women's belief that cervical smear tests are necessary for asymptomatic women, having a family doctor, having received gynecologic, obstetric, and family planning services in New Zealand, and having ever received a recommendation for a cervical smear test. *Conclusion:* The most important influential factors affecting uptake of cervical screening among Chinese women in New Zealand are women's belief in its value and their engagement in general and women's health services.

1. Introduction

Invasive cervical cancer is the second most common cancer among women in mainland China [1]. Several studies have suggested that Chinese women living in North America have higher incidence rates of cervical cancer than the general population [2,3], and that this higher prevalence is due in part to inadequate cervical screening [4,5].

International studies have also found that sociodemographic factors such as older age, marital status, being born in mainland China, lower education, lower household income, and less acculturation were associated with women having fewer smear tests [4–6]. In addition, factors associated with the uptake of screening were the belief among women that cervical cancer screening prevents cancer, general knowledge about the smear test, concern about pain/discomfort with the test, availability of time,

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culturally sensitive health care services, recommendation for screening from a physician, and having previously obtained family planning and obstetric services [5,7].

In New Zealand the National Cervical Screening Program (NCSP) reported that the screening coverage rate was about 45% in Asian women, a low rate compared with the national level of 73% [8]. Despite this low coverage and the growing Asian population, which currently accounts for 9.2% of the total population in New Zealand [9], there are no published statistics on cervical cancer in Asian women.

In response to the lack of research into screening uptake and the reasons behind the low rate of uptake in Asian women in New Zealand, we conducted a pilot study focusing on female immigrants from mainland China living in the Auckland region. The aim was to investigate the cervical screening practices of these women, their knowledge of cervical screening and risk factors for cervical cancer, and the factors affecting screening uptake that could be used to develop intervention strategies for Chinese women. We decided to study Chinese women living in the Auckland region because two-thirds of Asian people are located in the Auckland area, and 45% are Chinese [10]. We have previously reported the demographic predictors of cervical screening uptake in this population [11].

2. Materials and methods

This was a community-based pilot survey conducted by questionnaire and focus group interview between November 2006 and February 2007. We partnered with the Chinese New Settlers Services Trust (CNSST), a local nongovernmental organization, to recruit participants through their database. The researchers also used personal networks and their affiliations with ethnic community organizations. To promote the survey and enhance recruitment, information about the study was publicized via posters in Chinese distributed in community settings and in Chinese newspapers. The study was approved by the ethics committee of Auckland University of Technology.

Women were eligible to participate in the study if they had been born in mainland China, currently resided in Auckland, and were aged between 20 and 69 years. Questionnaires were sent to 260 eligible women and 234 were returned. Of these 234, 190 were recruited through CNSST, 33 through personal networks, and 11 through an advertisement.

The PRECEDE model [12] was used to develop the survey questionnaire and for analysis. According to PRECEDE, factors affecting behavior can be broadly grouped into enabling, predisposing, and reinforcing factors. Enabling factors are those skills and resources that positively or negatively facilitate change, for example, knowledge about cervical cancer risk factors. Predisposing factors include an individual's attitudes, beliefs, perceptions, and values. Reinforcing factors include social support of behavior by influential sources. This model has been successfully used in studies of immigrant women's uptake of breast and cervical cancer screening [4–7,13,14].

Sociodemographic data were collected regarding the women's age, marital status, education level, employment, income, housing status (owned, rented), duration of residence in New Zealand, and fluency in speaking English. To assess uptake of cervical screening, participants were asked whether they had ever been screened with a cervical smear test in New Zealand and, if so, whether they had been screened recently (within the last 3 years).

Enabling factors that were assessed included past medical history, as well as difficulties accessing health care. Participants were asked whether their access to health care was limited by concerns about cost, problems finding a medical interpreter, problems getting routine medical appointments, and transportation difficulties. The women's knowledge of cervical cancer and cervical smear tests was also questioned. Traditional (versus biomedical) orientations toward health and disease, as well as beliefs about smear tests were considered important predisposing factors for the uptake of screening. Reinforcing factors included 3 questions developed from other studies [5,7]. In addition, another 3 questions were developed about the role of the media and social marketing used by the NCSP. The survey questions were developed in English, translated into Chinese, piloted, and revised and reconciled by 2 translators.

Descriptive analysis was conducted to summarize the characteristics of the sample. Primary analyses included comparisons of the proportion of women who had been screened with a cervical smear test with all possible factors that may affect uptake. A secondary analysis compared the proportion of women screened recently. The χ^2 test and, where appropriate, Fisher exact test were used to assess statistical significance in bivariate comparisons. Separate multivariate logistic regression analyses were performed to summarize the independent effects within each group of factors. Backward elimination procedures were then used to select the most important risk and protective factors from the independent sociodemographic factors identified in the previous report [11] and those identified through the above process.

The adjusted odds ratios and 95% confidence intervals were reported for the effects. A significance level of 0.05 was used for all calculations.

3. Results

Of the 234 respondents, 80.3% were married, 80.7% had tertiary or postgraduate education, 47% were employed, 62.4% could converse in English, and 38% had religious beliefs. The mean age of the participants was 41 ± 10.6 years (range, 20–69 years), and the mean duration of time living in New Zealand was 6 ± 3.8 years.

A total of 152 women (65.0%; 95% CI, 58.5–71.1) reported having been screened in New Zealand and 56.0% (95% CI, 49.4–62.4) reported that they had been screened within the last 3 years.

The number of women who had been screened in New Zealand, the number who had been screened recently, and the comparisons with the possible factors (enabling, predisposing, reinforcing) affecting uptake of screening are presented in Table 1. The factors that were significantly associated with having been screened in New Zealand were: (1) the thought that cervical smear tests are necessary for asymptomatic women; (2) the thought that cervical smear tests are necessary for postmenopausal women; (3) concern about pain or discomfort; (4) having a family doctor; (5) having received gynecologic, obstetric, and family planning services in New Zealand; (6) having health insurance; (7) having transportation difficulties with medical appointments; (8) having ever received a recommendation for a cervical smear test from doctors, nurses, family members, or friends; and (9) having received or seen pamphlet information about the cervical screening program in English or in Chinese. All of the above factors, except the belief that cervical smear tests are necessary for postmenopausal