




Acceptability of Self-Sample Human Papillomavirus Testing Among Thai Women Visiting a Colposcopy Clinic

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Abstract

We offered self-sampling devices to 250 women who visited the colposcopy clinic at Chulabhorn Hospital, Bangkok, Thailand from March 1 to June 30, 2015. Participants received instruction about the vaginal self-sample method and collected the specimen themselves, before being examined by the physician who obtained a conventional cervical specimen. Participating women's attitudes and feelings regarding the self-sample method were explored using a short questionnaire. Of the 247 eligible women, more than 90% of participants rated the self-sample method as very good to excellent for convenience, comfort, and safety. In addition, 80% of participants reported the overall experience of using the self-sample device was very good to excellent compared with the physician-collected method. Self-sample HPV testing appears to be highly accepted and perceived as convenient, comfortable, and safe. More studies on self-sample HPV testing should be conducted in Thailand to investigate this as an alternative method of cervical cancer screening, particularly among women who do not attend the screening program.

Keywords Self-sample testing · Self-HPV · HPV testing · Cervical cancer screening · Thailand

Introduction

The incidence of cervical cancer in developed countries has decreased dramatically because of organized screening programs; however, the incidence of cervical cancer remains high in less developed countries [1]. The screening coverage of the population is a major factor that reduces the incidence and mortality of cervical cancer [2–4]. Currently, the incidence of cervical cancer in Thailand is high, with an age-standardized rate of 17.8 per 100,000 women and low

cervical cancer screening coverage [5]. Survey data revealed the screening coverage rate in Thai women aged 30–60 years was 46–67% [6]. Embarrassment and fear of vaginal examination were reported as the main reasons Thai women did not attend cervical cancer screening [7].

Primary human papillomavirus (HPV) testing has high sensitivity in detecting high grade precancerous cervical lesions and is approved for cervical screening [8–10]. Many previous studies revealed high concordance between self-collected and physician-collected cervicovaginal HPV testing, with self-collected HPV testing offering the advantage of increasing screening coverage and attendance [11–15]. Different populations and cultures may influence acceptability and attitudes regarding self-sample HPV devices and testing [16]. Studies on the acceptability of self-sample HPV testing among Thai women are scarce. Therefore, this study explored acceptability of the self-sample HPV screening method among Thai women.

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Materials and Methods

Participants

The study protocol was approved by the Institutional Review Board for Human Research of Chulabhorn Hospital (No. 10/2013). Women aged 30–70 years who visited the colposcopy clinic at Chulabhorn Hospital, Bangkok, Thailand from March 1 to June 30, 2015 were recruited. Written informed consent to join the study was obtained from all participating women.

Sample Collection

Participants received video, verbal, and pictorial instruction about the vaginal self-sample method. First, participants obtained a vaginal specimen with the Evalyn Brush (Rovers Medical Devices B.V., Oss, Netherlands) self-sample device, which is a dry brush. Next, the participant was examined by the gynecologic oncologist and an endocervical sample was obtained with a Rovers Cervex-Brush (Rovers Medical Devices B.V., Oss, Netherlands).

Measures

Participants' baseline characteristics, general obstetric and gynecological history, and history of previous cervical cancer screening were collected. After the self-sample and conventional physician-collected methods were completed, participants were asked to complete a short questionnaire covering attitudes and feelings about self-sample HPV testing. The questionnaire also assessed how participants perceived the instructions provided and convenience of this screening method. All items were rated on a five-point ordinal scale.

Statistical Analysis

Mean, median, and standard deviation (SD) were used to calculate participants' general characteristics. The statistical significance level was set at 0.05. All data were analyzed with Stata SE version 12.1.

Results

In total, 250 eligible women were enrolled in the study and completed the questionnaire. Two participants were excluded because of history of cervical cancer and previous hysterectomy. A pair of samples was excluded because of invalid test results. Participants' demographic characteristics

Table 1 Participants' demographic data (n = 247)

Demographics	n	%
Age (years)		
Mean \pm SD, range	47.2 \pm 9.8	30–70
30–39	61	24.7
40–49	87	35.2
50–59	68	27.5
> 59	31	12.6
Religion		
Buddhism	245	99.2
Islam	1	0.4
Other	1	0.4
Ethnic group		
Thai	239	96.8
Chinese	8	3.2
Place of residence		
Bangkok	70	28.3
Other province	177	71.7
Education		
No education	2	0.8
Primary education	37	15.0
High school	52	21.1
Vocation school	44	17.8
Bachelor's degree	83	33.6
Postgraduate	29	11.7
Income (Baht)		
< 10,000	63	25.5
10,000–20,000	80	32.4
20,001–30,000	48	19.4
> 30,000	52	21.1
Unknown	4	1.6

SD standard deviation

are summarized in Table 1. The mean age of participants was 47.2 years. The main ethnic group was Thai (96.8%) and the remaining were Chinese (3.2%); 99.2% were Buddhists. Most participants lived outside Bangkok (71.7%), had an education level above high school (56.7%), and reported an income of 20,000 Baht (567 USD) per month or less (57.0%).

Table 2 presents obstetric and gynecological data. The mean age of first sexual intercourse was 22.5 years (14–47 years; SD 4.9 years). Most participants were premenopausal (63.2%), 66.8% were married, and 70.0% were sexually active. Almost half (45.9%) of participants did not use any contraception. Among those who used contraception, tubal ligation was the most common method (20.1%), followed by oral contraceptive pills, and condoms (each 12.3%). Pregnancy data showed that 74.5% of participants had been pregnant, with the mean age at first pregnancy being 24.9 years (16–40 years; SD 5.0 years). In addition,

Table 2 Obstetric and gynecological data (n = 247)

Obstetric and gynecological data	n	%
Age at first sexual intercourse ^a	236	
Mean ± SD, range	22.5 ± 4.9	14–47
Menopausal status		
Pre-menopause	156	63.2
Menopause < 1 year	25	10.1
Menopause > 1 year	66	26.7
Sexually active		
Yes	173	70.0
No	74	30.0
Contraception (multiple choice)	244	
Never	112	45.9
Female sterilization	49	20.1
Oral contraceptives	30	12.3
Condoms	30	12.3
Withdrawal method	22	9.0
Injections	4	1.6
Emergency pill	4	1.6
Male sterilization	3	1.2
Unknown	3	1.2
Had been pregnant		
Yes	184	74.5
No	63	25.5
Number of pregnancies		
Mean ± SD, range	2.22 ± 0.99	1–6
Age at first pregnancy (years)		
Mean ± SD, range	24.9 ± 5.0	16–40
Family history of cervical cancer		
Yes	27	10.9
No	186	75.3

n number, SD standard deviation

^aNever sexually active in three cases, unknown in eight cases

10.9% of participants reported that a family member had been diagnosed with cervical cancer.

Acceptability of Self-Sample HPV Testing

The analyzed questionnaires showed that almost all participants rated the convenience, comfort (226; 91.5%), and safety (228; 92.3%) of the self-sample method as very good to excellent. The instructions for using the Evalyn Brush were considered very good to excellent by 236 (95.5%) participants. In terms of their feelings about the self-sampling method (i.e., no pain/discomfort), 207 participants (83.8%) considered it very good to excellent. The overall experience of using self-sampling device compared with the physician-collected method was rated as very good to excellent by 199 participants (80.8%) (Table 3).

Women who preferred the self-sample method explained that this method does not cause embarrassment. They commented that it was suitable for Thai women who did not want to undergo a pelvic examination by a doctor, and for women who lived in remote areas. Participants who preferred the conventional physician-collected method indicated that they believed it was more reliable. Some participants who preferred the physician-collected to the self-sample method were concerned that they may not use the device correctly.

Discussion

Our study demonstrated a high level of acceptability of self-sample HPV testing among participants who perceived it as convenient, comfortable, and safe. This finding is consistent with most previous studies [17–27], and was also similar to a previous study of self-sampling acceptability in Thailand [28].

Women who preferred the conventional physician-collected method indicated that they felt more confidence in the reliability of this method and were concerned that they might not use the self-sample device correctly. This concern may be because tampon use is uncommon among Thai

Table 3 Questionnaire results

Topic	Level of satisfaction					Mean	Interpreted
	Excellent n (%)	Very good n (%)	Moderate n (%)	Poor n (%)	Very poor n (%)		
1. Convenient and comfortable	93 (37.65)	133 (53.85)	19 (7.69)	1 (0.40)	1 (0.40)	4.44	Excellent
2. Safe	123 (49.80)	105 (42.51)	19 (7.69)	0 (0.00)	0 (0.00)	4.35	Excellent
3. Instructions	102 (41.30)	134 (54.25)	10 (4.05)	1 (0.40)	0 (0.00)	4.49	Excellent
4. Feeling (no pain or discomfort)	93 (37.65)	114 (46.15)	32 (12.96)	7 (2.83)	1 (0.40)	4.26	Excellent
5. Overall experience compared with the physician-collected smear	100 (40.65)	99 (40.24)	37 (15.04)	10 (4.07)	0 (0.00)	4.17	Excellent

women; therefore, they may be unfamiliar with inserting a device into their vagina. Nonetheless, the report of less confidence in the reliability of self-sample testing is consistent with previous studies [17, 19, 20, 26].

A limitation of our study is that it was conducted in a colposcopy clinic, meaning that all participants had previously undergone pelvic examination and cervical cytology. Therefore, the sample was not representative of all Thai women, especially women who do not attend the screening program. Moreover, the average educational level of participants in our study was high compared with that among Thai women generally. Finally, conducting the study in a hospital setting differed from a real situation in which women would use the self-sampling device at home. Our participants were able to ask questions about the instructions until they understood and felt confident using the device.

This study suggests that self-sample HPV testing has potential to be an acceptable, alternative method of cervical cancer screening in Thailand. More education about cervical cancer screening, HPV testing, and the self-sampling process should be communicated to Thai women to increase confidence in this screening method.

Conclusion

Our study demonstrated high acceptability of self-sample HPV testing among Thai women who visited a colposcopy clinic, with this method perceived as convenient, comfortable, and safe. Reasons for preferring self-sampling compared with the conventional physician-collected method were that it does not cause embarrassment and women are able to perform the test at home. Self-sample HPV testing should be considered as an alternative method of cervical cancer screening, particularly among women who do not attend screening. More studies on clinical validation and acceptability of self-sample HPV testing in Thailand are warranted.

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Compliance with Ethical Standards

Conflict of interest The authors declare that there are no conflicts of interest.

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