

Factors Predicting Intention for Cervical Cancer Screening among Women Aged 30 to 60 Years in Ratchaburi Province, Thailand: Population-based Study

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Abstract

Cervical cancer is the second most common cancer among women worldwide. Cervical cancer screening can help to detect cancer at an early stage for early treatment.

Objective: This descriptive study was conducted in order to predict an intention to receive cervical cancer screening among women aged 30 to 60 years in Ratchaburi province, Thailand. Four hundred and fifty healthy urban women in this province were recruited by the multi-stage random sampling method.

Materials and Methods:

The questionnaires were comprised of demographic data, attitude toward cervical cancer screening, subjective norm, perceived behavioral control, and intention to receive cervical cancer screening. Data were analyzed by using stepwise multiple regression analysis.

Results: This results of the study revealed that the subjective norm (SN) and perceived behavioral control (PBC) of factors were contributing significantly to the variance accounted for 28.10 percent ($R^2 = 0.281$, $p < 0.01$) in the intention to receive cervical cancer screening. Recommendations from individual spouse and nearby medical staff are specific reasons for the intention to receive cervical cancer screening.

Conclusion: SN and PBC had important roles for intention to obtain cervical cancer screening. Campaigns for cervical cancer screening promotion should be also carried out in her spout.

Key words: cervical cancer screening, intention

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Introduction

Cervical cancer is the second most common cancer among women worldwide. Cervical cancer screening will help to detect an early stage of cancer for early treatment.¹ However, recently it is more commonly found in younger patients compared to other gynecological cancer. The coverage of cervical cancer screening in Thai women had extensively under the target. The percentages of screening coverage were only 48.62% and 54.50% in the year 2003 and 2006, respectively.

The intention of any person who would perform the behavior was believed to come from 3 factors i.e. attitude, subjective norms and perceive behavioral control. Hereby the researcher interested to investigate the factors that influence or predict the intention for cervical cancer screening. We start study in women aged 30 to 60 years in Ratchaburi province to explore the fundamental education and understanding context of cervical cancer screening.

Materials and Methods

The present research proposal received the approval of the Ethical Committee Clinical Research of Faculty of Nursing, Thammasat University in 2010. Participants consisted of women aged 30-60 years old who lived in Ratchaburi province between October and December 2010. A total of 450 women in were recruited by the multi-stage random sampling method after their written informed consent form was signed.

Demographic data, attitude toward cervical cancer screening, subjective norm, perceived behavioral control, and intention to receive cervical cancer screening were also collected from all participants using a structured questionnaire and trained interviewer.

The descriptive statistics were used to summarize the demographic data in term of frequency, percentage and the average mean with standard deviation (S.D.) The attitude, norm and intention

data were analyzed by using stepwise multiple regression analysis.

Result

The demographic data of the participants are shown in Table 1. Participants in the present study were between 30-60 years old with the mean of 45.29 years (S.D. = 4.23). Sixty-nine percent earned a monthly income of 10,000 Baht or less (around 300 USD). This is the lowest wage earner group in the Thai tax structure and received tax exemption under the current act of Thai revenue department. Half of them (53.56%) completed the elementary education level. Seventy percent of the participant had marital status. The majority (63%) had ever used contraception methods. The birth control pill and contraceptive injection was used by 32.16% and 26.15%, respectively. Most of their family members (86%) had no family history of cancer. In the subjective norm who had family history of cancer shown that the highest rank was cervical cancer by 22.58%. While the second rank (19%) was breast cancer.

The participants had excellent attitude as shown in Table 2. Their subjective norm had a good attitude to cervical cancer screening to satisfied level (1.82 ± 0.53). While the deference of subjective norm with cervical cancer screening was high level (4.81 ± 1.17). Acknowledgement ability of factor controlling in cervical cancer screening was controllable level (0.52 ± 0.36) and intention to take cervical cancer screening was intent level (4.10 ± 0.37).

Relative analysis is shown in Table 3. In this study had found that all factors were affected on intention to perceive cervical cancer screening. The deferential of subjective norm was the most effective factor with an intention to take cervical cancer screening ($r = 0.516$, $p < 0.01$). However, acknowledgement ability of factor controlling was the lowest effective factor ($r = 0.215$, $p < 0.01$) with an intention to take cervical screening.

Table 1 Demographic data of subjective norm classified by age, education, income (per month), marital status, contraception and heredity (n = 450)

Individual Factors	N	%
Age (years)		
30-40	166	36.89
40-50	137	30.44
51-60	147	32.67
Education		
Illiterate	3	0.67
Elementary school	241	53.56
Lower secondary school	57	12.66
Upper secondary school or vocational certificate	63	14.00
Diploma or high vocational certificate	21	4.67
Bachelor degree	59	13.11
Master degree	6	1.33
Income (Baht)		
< 2,500	24	5.33
2,500-5,000	111	24.67
5,001-7,500	118	26.22
7,501-10,000	88	19.56
10,001-15,000	51	11.33
> 15,000	58	12.89
Marital status		
Single	66	14.67
Couple	317	70.44
Widow / Divorced	67	14.89
Contraception		
Never	167	37.11
Ever	283	62.89
Family history of cancer (heredity)		
No	388	86.22
Yes	62	13.78
Cervical cancer	14	22.53
Breast cancer	12	19.36
Others	36	58.11

Table 2 Attitude, deference, acknowledgement ability of factor controlling and intention to take cervical cancer screening

Behavior	Possible scores	Actual scores	Mean	S.D.	interpretation
Attitude	-4.00 – 4.00	-0.25 – 4.00	1.82	0.53	good
Deference	-10.00 – 10.00	-1.00 – 10.00	4.81	1.17	high
Acknowledgement ability	-4.00 – 4.00	-1.75 – 3.00	0.52	0.36	controllable
Intention	1.00 – 5.00	1.00 – 5.00	4.10	0.37	intent

Table 3 Pearson's correlation coefficient between attitude, deference, acknowledgement ability of factor controlling and intention to take cervical cancer screening

	Attitude	Deference	Acknowledgement ability	Intention
Attitude	1.00			
Deference	0.633**	1.00		
Acknowledgement ability	0.157*	0.189**	1.00	
Intention	0.378**	0.516**	0.215**	1.00

** $p < 0.01$ **Table 4** Coefficient prediction (R^2) An Intention to take cervical cancer screening (IS) by vulnerable group in Muang district, Ratchaburi province (n = 450)

Predictor	R	R^2	R^2 change	F	b	Beta	p-value
Deference	0.516	0.266	0.265	162.741	0.154	0.493	0.000***
Acknowledgement ability	0.530	0.281	0.278	87.252	0.124	0.122	0.003**

Constant (a) = 3.298

** $p < 0.01$, *** $p < 0.001$

The prediction in raw score.

$$Y' = \text{constant} + b_1 X_1 + b_2 X_2$$

$$IS = 3.298 + 0.154 (DF) + 0.124 (AA)$$

The prediction in standard score.

$$IS = 0.493 (DF) + 0.122 (AA)$$

IS = intention to take cervical cancer screening, DF = deferential of subjective norm, AA = acknowledgement ability of factor controlling

Testing assumption is shown in Table 4. Research results by stepwise multiple regression analysis found that predicting factor of intention to take cervical cancer screening (IS) with statistic significant had 2 factors as follows respectively. The deferential of subjective norm (DF) was the first factor that equate prediction factor of intention to take cervical cancer screening by explaining alteration in percentage of 26.60 ($F_{449} = 162.741, p < 0.001$). The next step found that second factor that could predict IS was acknowledgement ability of factor controlling (AA). DF and AA could co-predicting IS that increased by percentage of 28.10 ($F_{449} = 89.252, p < 0.001$).

Discussion

Cervical cancer is the second most common in gynecology cancer in Thailand.² The benefits of cervical cancer screening are shifting the incidence of cancer from advanced to early stages and early treatment of precancerous lesion. The population screening for cervical cancer with cytological smears has been convincingly shown to reduce cervical cancer incidence and mortality.³ The problem of cervical cancer screening was the modesty of women in hard-to-reach group. Many health care sectors either government or private try to reduce the barriers in the hard-to-reach group (which is the majority of Thai patients) so that precancerous and early cancerous cases can be detected as early as possible. Lack of screening technology is not the barrier to attend. There are numerous methods of cervical cancer screening in Thailand, i.e., conventional Pap smear; liquid based Pap smear, HPV DNA testing and visual inspection with acetic acid (VIA).

Unfortunately, the result of taking cervical cancer screening was still under expectation in high level.² The oriental culture about genital organ is the major barrier for women to attend cervical cancer screening. Cervical cancer screening service

was widely available for free service in nearby clinic or hospital. The goal of mass screening is to raise percentage of women who had never perceived the cervical cancer screening. This study was designed to explore the potent intention of women to perceive cervical cancer screening.

Most of study found that barrier to cervical cancer screening were deficient in knowledge, invulnerable self-surmised, fearful, embarrassment, inattentive and have no time.⁴⁻⁹ The theory of planned behavior reasons that behavioral intention is the product of three forces: the attitude towards the behavior, the subjective norm regarding the behavior, and the perceived behavioral control.¹⁰⁻¹² However, there are numerous factors that affected the cervical cancer screening intention. An intention was a predictable for behavioral of taking cervical cancer screening. In Pornpikanon 2008 study of Chonburi subjects, found attitude and deference were co-predicting factors to take cervical cancer screening of women.¹³ Previous study in Saraburi subjects found that attitude, deference and acknowledgement ability of behavioral controlling were accurately co-predicting in intention of preventive behavior.¹⁴

Both Rimprapannee and Pornpikanon studied the factors for prediction an intention to perceive cervical cancer screening in nearby province. Comparing to present study, deferential of subjective norm and acknowledgement ability of factor controlling were able to co-predict an intention to take cervical cancer screening by 28.10% ($F_{449} = 89.252, p < .001$). However there are 70% of others factor that are able to co-predict an intention to take cervical cancer screening of women. Surprisingly, husband and her family members (76%) were the important factors for intention to perceive screening service. The researchers suggested that a campaign for cervical cancer screening should point to women and her spout. Her spouse office was a good place for campaigning and education.

The theory of planned behavior seems to be helpful in understanding Thai women's intention to access cervical cancer screenings. When planning programs, enhancing attitudes and behavioral control should included as important factors. Further study should be done. A long term study for behavioral prediction of taking cervical cancer screening should be done by using information of the research. The study should identify vulnerable age that should obtain cervical cancer screening and show tendency of decreasing.

Conclusion

Co-predicting factor of intention to take cervical cancer screening consists of 2 factors: differential of subjective norm and acknowledgement ability of factor controlling. These 2 factors are able to co-predict an intention to take cervical cancer screening by 28.10% ($R^2 = 0.281$, $p < 0.001$). Reference group effect on cervical cancer screening in this study is in the high level (group of people in the family or husband). Promotion of cervical cancer screening should also focus on these groups (husband and their family members) for increasing intention for cervical cancer screening among women.

References

1. Ferlay J, Bray F, Pisani P, Parkin DM. GLOBOCAN 2000: cancer incidence, mortality and prevalence worldwide. Version 1.0 IARC cancer base No.5. Lyon: IARC Press; 2001.
2. National Cancer Institute, Ministry of Health. The prevalence of cancer patients in Thailand. Bangkok: National Cancer Institute. Ministry of Health; 2010.
3. Hakama M, Coleman MP, Alexe DM, Auvinen A. Cancer screening: evidence and practice in Europe 2008. *Eur J Cancer* 2008;44:1404-13.
4. Carey Jackson J, Taylor VM, Chitnarong K, Mahloch J, Fischer M, Sam R, Seng P. Development of a cervical cancer control intervention program for Cambodian American women. *J Community Health* 2000;25:359-75.
5. Suwannarurk K, Sueblinvong T, Sermboon A, Treetampinich C, Pongrojapaw D. Knowledge and Attitudes in Pap smear screening among women at antenatal and postpartum clinic at Thammasat University Hospital. *Thammasat Med J* 2004;1:11-9.
6. Chiamchanya C, Suwannarurk K, Kietinun S. The Screening Cervical Cancer by Pap smear in Women Age 15-65 Years in Tambol Kukot, Lumlukka District, Pathumthani Province. *Thammasat Med J* 2004;1:20-32.
7. Srisai J. Effective factors of women to take cervical cancer screening at Nan hospital in Nan province. Independence research Master of public health, Department of public health, Graduate school of Chiangmai University; 1997.
8. Srichan Y. Effective factors of women to take cervical cancer screening in Pasak district Poosang sub-district Payao province. Master of public health degree thesis, Department of public health, Graduate school of Chiangmai University; 2007.
9. Al-Naggar RA, Low WY, Isa ZM. Knowledge and barriers towards cervical cancer screening among young women in Malaysia. *Asian Pac J Cancer Prev* 2010;11:867-73.
10. Ajzen I. From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckman (Eds.), *Action-control: From cognition to behavior*. Heidelberg, Germany: Springer; 1985. p. 11-39.
11. Ajzen I. The theory of planned behavior. *Organizational Behavior and Human Decision Processes* 1991;50:179-211.
12. Ajzen I, Madden TJ. Prediction of goal-directed behavior: Attitudes, intentions, and perceived behavioral control. *J Exp Soc Psychol* 1986; 22:453-74.

13. Pornpikanon S. Effective factors of women to take cervical cancer screening between 35-39 years of age in Sriracha district Chonburi province. Master of public health degree thesis, Department of community medical practice, Graduate school of Burapha University; 2008.
14. Rimprapannee H. Causality factors related to prevention behavioral of cervical cancer in woman in Saraburi province by Theory of planned behavior. Master of education degree thesis, Department of health education, Graduate school of Srinakarinwirot University; 2000.

บทคัดย่อ

ปัจจัยทำนายความตั้งใจในการรับการตรวจคัดกรองมะเร็งคอมดลูกของสตรีอายุ ๓๐-๖๐ ปี ในจังหวัดราชบุรี ศรีสกุล ศรีสกุล*, มยุรี นิรัทธาคร**, คมสันต์ สุวรรณฤกษ์***

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ที่มาและความสำคัญ: มะเร็งคอมดลูกเป็นมะเร็งที่พบมากเป็นอันดับสองในสตรีทั่วโลก และเป็นสาเหตุการเสียชีวิตของสตรีจำนวนมาก แต่ถ้าหากได้รับการตรวจคัดกรองมะเร็งคอมดลูกจะช่วยทำให้สามารถตรวจพบภาวะก่อนมะเร็งและมะเร็งระยะเริ่มแรกอันจะนำไปสู่การวินิจฉัยและรักษาได้โดยเร็ว

วัตถุประสงค์: เพื่อศึกษาอำนาจทำนายของเจตคติ การคล้อยตามกลุ่มอ้างอิง และการรับรู้ความสามารถในการควบคุมปัจจัยในการรับการตรวจคัดกรองมะเร็งคอมดลูก ต่อความตั้งใจในการรับการตรวจคัดกรองมะเร็งคอมดลูกของสตรีอายุ ๓๐-๖๐ ปี จังหวัดราชบุรี จำนวน ๔๕๐ คน

วิธีการศึกษา: คัดเลือกกลุ่มตัวอย่างโดยวิธีการสุ่มตัวอย่างแบบหลายขั้นตอน เครื่องมือที่ใช้ในการวิจัยประกอบด้วยแบบสอบถามปัจจัยส่วนบุคคล แบบสอบถามเจตคติต่อการตรวจคัดกรองมะเร็งคอมดลูก แบบสอบถามการคล้อยตามกลุ่มอ้างอิงต่อการตรวจคัดกรองมะเร็งคอมดลูก แบบสอบถามการรับรู้ความสามารถในการควบคุมปัจจัยต่อการตรวจคัดกรองมะเร็งคอมดลูกและแบบสอบถามความตั้งใจในการรับการตรวจคัดกรองมะเร็งคอมดลูก วิเคราะห์ข้อมูลโดยใช้สถิติการวิเคราะห์ถดถอยพหุคูณแบบขั้นตอน

ผลการศึกษา: การคล้อยตามกลุ่มอ้างอิง และการรับรู้ความสามารถในการควบคุมปัจจัยในการรับการตรวจคัดกรองมะเร็งคอมดลูกสามารถร่วมทำนายความตั้งใจในการรับการตรวจคัดกรองมะเร็งคอมดลูกของสตรีกลุ่มเสี่ยงได้อย่างมีนัยสำคัญทางสถิติ โดยอธิบายความตั้งใจในการรับการตรวจคัดกรองมะเร็งคอมดลูกได้ร้อยละ ๒๘.๑๐ ($R^2 = .๒๘๑$, ค่า $p < ๐.๐๑$)

สรุป: การคล้อยตามกลุ่มอ้างอิง และการรับรู้ความสามารถในการควบคุมปัจจัยควรมีการศึกษาในระยะยาวเพื่อทำนายพฤติกรรมในการไปรับการตรวจคัดกรองมีส่วนสำคัญต่อความตั้งใจในการรับการตรวจคัดกรองมะเร็งคอมดลูก การณรงค์เพิ่มการตรวจคัดกรองมะเร็งคอมดลูกควรมุ่งความสนใจไปที่คู่สมรสด้วย และใช้ข้อมูลในการวิจัยเพื่อเป็นแนวทางในการกำหนดอายุกลุ่มเสี่ยงที่ควรได้รับการตรวจคัดกรองมะเร็งคอมดลูกซึ่งมีแนวโน้มลดลง และจัดการณรงค์ให้ความรู้ตามที่ทำงานและที่บ้าน

คำสำคัญ: การตรวจคัดกรองมะเร็งคอมดลูก, ความตั้งใจ