



Association of perceived barriers factor and participation of women in early detection of cervical cancer

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Abstract

Background: In Indonesia, cervical cancer ranked second most of all cancers in women after breast cancer which was as much as 13% with a mortality rate of 10.3%. One of WHO recommendations, effort to overcome this problem is early detection of cervical cancer in women. But in fact, as many as 95% of women in Indonesia did not detect cervical cancer early. The aim of this study was to determine the association of perceived barriers to the women's participation in early detection of cervical cancer in the region of several public health centers in Bandung, Indonesia.

Methods: A descriptive cross-sectional study was conducted with 190 women who have married using a questionnaire. Data analysis using chi-square test.

Results: The findings showed that perceived barriers factor was related to the women's participation in early detection of cervical cancer ($p < 0.05$) based on age, education, parity, and income.

Conclusions: The development of health promotion by taking into account the perceived barriers factor need to be improved.

Keywords: Perceived barriers factor, women's participation, early detection, cervical cancer

Background

Cervical cancer is one of the diseases that women fear because it often causes death. According to the International Agency For Research On Cancer (IARC) in 2012, cervical cancer was a type of cancer with the third largest incidence in the world of all types of cancer in women which is around 7.9% and the mortality from cervical cancer is around 7.5%.

The World Health Organization (WHO) recommends that all women who meet the criteria for cervical cancer screening at least every three years to reduce morbidity and mortality due to cervical cancer. But in fact, coverage of cervical cancer screening in developing countries was still low. For example, women in North Africa, Bhutan, and Nigeria were only 6%, 12% and 8.3% respectively who participated in cervical cancer screening [2]. Likewise in Indonesia, as many as 95% of women did not undergo early screening or screening. The examination was generally carried out after symptoms of cervical cancer occur so that cervical cancer was diagnosed at an advanced stage.

Early detection of cervical cancer is important for all married women to prevent cervical cancer. This can be done through VIA tests (Visual Inspection with Acetate acid) and Pap smear [5]. Currently, the

VIA test can be carried out at the health center level in the city of Bandung because the method is practical, easy and inexpensive. But in fact, the coverage of cervical cancer (VIA) in West Java was still low which were only 205.421 persons who participated in test [6]. Based on a preliminary study on 10 mothers in the city of Bandung, 3 mothers had already performed tests of early detection of cervical cancer and 7 mothers had not yet made early detection of cervical cancer, whether it was an IVA test or Pap smear. According to the Health Belief Model (HBM) theory, a person's behavior depends on perceptual factors, namely beliefs and views (health belief) on perceived threats (susceptibility), consideration of benefits (losses) and losses [7]. Some of them are low awareness of the benefits of cervical cancer screening, lack of knowledge about cervical cancer and its risk factors, fear and shame when examined by health workers, fear of pain, and fear of getting results of examination if positive, have become the main factors that inhibit early detection of cancer cervix [8,9].

Based on the phenomenon above, researchers were interested in finding out the relationship between perceptual barriers and the participation of mothers in the early detection of cervical cancer.

Methods

A descriptive cross-sectional survey was conducted to study the women in the region of Bandung City, West Java Province based on several regions of the public health center in Bandung City as affordable population. The sample of the study was the women who met the inclusion criteria as follows has been married, did not have a total hysterectomy, and willing to be respondent.

Sample size and sampling method

In determining the sample size the following formula was used:

$$n = \frac{\{Z_{1-\alpha/2} \sqrt{P_o (1-P_o)} + Z_{1-\beta} \sqrt{P_a (1-P_a)}\}^2}{(P_a - P_o)^2}$$

Information:

- n = the number or size of the sample is minimal
- Z_{1-α/2} = the default value of the normal distribution for certain α (α = 5%)
- Z_{1-β} = the default value of normal distribution in β or test strength (β = 20%)
- P_o = proportion of the dependent variable and the independent variable in the previous study (Okataviana, M.N, 2015)
- P_a = the proportion of the dependent variable and the expected independent variable

In this study type I error was set at 5%, one-way hypothesis, so Z α = 1.96. Type II error was set at 20%, then Z β = 0.84. The proportion of the dependent variable and the independent variable in the previous study was 39.3% and the proportion of the dependent variable and the expected independent variable was at least 49.3%. Then the calculation of the sample size of this study was as follows:

$$n = \frac{\{1,96 \sqrt{0,39 (1-0,39)} + 0,84 \sqrt{0,49 (1-0,49)}\}^2}{(0,49-0,39)^2}$$

= 190

Samples were selected by consecutive sampling, ie samples were selected that met the research criteria until the number of samples was reached.

Data collection

The data used were primary data collected directly from respondents through filling out questionnaires. The instrument in this study was a questionnaire to measure the variable perceived barriers and the women's participation in early detection of the cervical cervix using the Guttman scale (yes and no). The questions about the perceived barriers in

the early detection of cervical cancer were as follows: VIA/Pap smear examination is only for people who are at high risk of contracting cervical cancer; I feel afraid of having an IVA / Pap smear if the results are positive; I feel scared that my husband is not permitted for a VIA/Pap smear; I feel that VIA/pap smear is expensive; I feel there is no time for VIA/pap smear examination; and I find it difficult to get VIA/pap smear services.

Results

The socio-demographic characteristics of the respondents showed that, 30.5% (n=58), of women were under 30 years while 69,5% (n132) were above or equal to 30 years. In terms of the education level, 7.4% (n=14) had primary education, 5.8% (n=49) had attained secondary education, and 66.8% (n=127) had attained tertiary education or higher education. Regarding parity status, 8.9% (n=17) were nullipara, 33.7% (n=64) were primipara, and 57.4% (n=109) had parity above or equal to two. Again, 16.3 % (n=31) had income under 2.6 million while 83.7% (n=159) had income above or equal to 2.6 million. In relation to the knowledge level about early detection of cervical cancer, 26.8% (n=51) were good, 33.7% (n=64) were fair, and 39.5% (n=75) were poor.

Table 1 The Association of Perceived Barriers and Participation in Early Detection of Cervical Cancer

Perceived Barriers	Participation				p-value
	High		Low		
	n	%	n	%	
High	6	5.1	111	94.9	< .001
Low	34	46.6	39	53.4	

Table 1 shows the association of perceived barriers and women participation in early detection of cervical cancer. Statistical tests showed a significant (p<.001).

The results of this study in Table 2 showed that the factors of age, education, parity, income based on regional minimum wage, and knowledge did not distort the association of perceived barriers and women's participation in early detection of cervical cancer (p > .05). The results of this stratification analysis indicated that there was an association between factors of perceived barriers and women's participation in early detection of cervical cancer (p <.001) after adjustments based on age, education, parity, and income based on regional minimum wage.

Table 2 The Association of Perceived Barriers and Women's Participation in Early Detection of Cervical Cancer

		Perceived Barriers	Participation				Adjusted p-value*
			High		Low		
			N	%	n	%	
Age	<30	High	2	5,1	37	94,9	<.001
		Low	3	15,8	16	84,2	
	≥30	High	4	5,1	74	94,9	
		Low	31	57,4	23	42,6	
Education level	SD	High	0	0,0	10	100,0	<.001
		Low	2	50,0	2	50,0	
	SMP	High	0	0,0	39	100,0	
		Low	4	40,0	6	60,0	
	>SMA	High	6	8,8	62	91,2	
		Low	28	47,5	31	52,5	
Parity	0	High	1	9,1	10	90,9	<.001
		Low	3	50,0	3	50,0	
	1	High	3	6,5	43	93,5	
		Low	3	16,7	15	83,3	
	≥2	High	2	3,3	58	96,7	
		Low	28	57,1	21	42,9	
Income	<2,6 million	High	0	0,0	25	100,0	<.001
		Low	3	50,0	3	50,0	
	≥2,6 million	High	6	6,5	86	93,5	
		Low	31	46,3	36	53,7	

*Chi-square and Cochran's Mantel-Haenszel tests. Chi-square and Breslow-Day tests for covariate analysis was > .05

Discussion

An important finding of this study is that perceived barrier was associated with women's participation in early detection of cervical cancer. Women with high perceived barriers had low participation in early detection of cervical cancer and the other hand women with low perceived barriers had high participation in early detection of cervical cancer. A possible explanation may be that high perceived barriers enable women to tend to hinder women's ability to engage in early detection of cervical cancer. The barriers in the recent study were perception of VIA/Pap smear examination was only for people who are at high risk, fear of the positive result, perception of husband does not permit to screen, perception of expensive, have no time for VIA/pap smear examination, difficult to get VIA/pap smear services. Previous studies found that potential barriers could be in the form of institutional factors, personal, negative belief, social, fatalistic, financial, and

negative misconception, which prevent the women to participate in cervical cancer screening [10, 11]. Another study revealed that the most frequently reported reason for not taking screening service was feeling of healthiness because of absence symptoms (90.6%), followed by emotional barriers like fear of test procedure is painful (74.9%). The study showed that perceived barriers continued to be significantly associated with cervical cancer screening service uptake (p-values<0.05) [12]. Consistent finding was also reported from study done in Bangladesh and Nigeria which found that perceived barriers have significant impact on cervical cancer screening uptake [13,14].

One of the barrier from the current result was fear of the positive result. This feeling may be due to lack of information about the purpose of early detection of cervical cancer. This is also confirmed by another study done in Wufeng County, China which revealed that the most

commonly reported barrier that affected the women willingness to engage the screening was the anticipated feeling of anxiety if the screening indicated an illness [15].

From this study it was found that the maternal age was not the barriers for refusing cervical cancer screening. This was contrary with another study was revealed that maternal age is one of the significant predictors of cervical cancer screening uptake [9,12,15]. The study found that women who were older than age 50 had reduced odds of identifying fear of finding cancer (OR 0.54, 95% CI 0.32–0.93) as a barrier compared to women younger than 50 [9]. In addition, from previous study revealed that women in their 30's were 1.8 times more likely to be screened compared to women in their 20s (AOR = 1.799, 95%CI = 1.182–2.739) [12]. In line with the result of current study, education level, parity, and income also were not the barriers in this study.

Conclusions

There was a significant association of perceived barriers and participation of women in early detection of cervical cancer after adjusting level of age, education level, parity, and income. An understanding of the barriers of cervical cancer screening can enable healthcare providers and the public health workforce to be sensitive to the unique needs of the populations as they work towards overcoming these problems..

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