

The influence of empowerment of women of childbearing age on cervical cancer prevention behavior

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SUMMARY: The influence of empowerment of women of childbearing age on cervical cancer prevention behavior.

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Community empowerment is defined as a process whereby individuals, organizations and communities gain control over their life. In relation to the definition of community empowerment, this study aims to determine the effect of empowerment of women of childbearing age on cervical cancer prevention behavior. This study is a quasi-experiment which was conducted on women of childbearing age in two areas: Perwiritan and Moria in Titirantai village, Medan Baru district, in the area

of community healthcare center/Puskesmas Padang Bulan in Medan. Using purposive sampling technique, 60 women of childbearing age were examined as sample of this study. Data was analyzed through paired t-test and logistic regression analysis. Findings found that there is a significant difference of mean on knowledge, attitude and action of women of childbearing age before and after empowerment ($p < 0.05$). The OR of knowledge after interacting with the confounding variable is at 0.162 and action at 4.875. Thus, this research suggests that empowerment is an effective way in improving behavior of women of childbearing age on early detection of cervical cancer. In addition, empowerment of women of childbearing age can also be used as one of the primary or secondary prevention programs on cervical cancer especially for housewives.

KEY WORDS: Empowerment - Behavior - Cervical cancer prevention - Women of childbearing age.

Introduction

Throughout the world cervical cancer is the second most common type of malignancy after breast cancer suffered by women. However, cervical cancer is a major cause of death among women of childbearing age (1, 2). Indonesia is the country with the highest number of patients of cervical cancer in the world, with 522,354 patients each year (3) and with a high Case Fatality Rate (CFR) at 12.8%. Most cases of incidence and death from cervical cancer occur at the age group of 45-54 years old with Age Specific Death Rate (ASDR) at 29.05 per 100,000 women (4).

Approximately 52 million of Indonesian women are at risk for cervical cancer; the majority of patients at around 70% comes to healthcare centers when their health situation is at critical or already at advance sta-

ge. In fact, Prandana et al. study (5) states that in East Java there are 78.1% of cervical cancer patients, coming for health treatment already at stage III B. In addition, a study conducted in H. Adam Malik Public Hospital in Medan found that 65.5% of patients with cervical cancer coming to take health treatment were already at stage III (6, 7).

Cervical cancer is a multifactorial disease, meaning that the disease is not caused by a single or only one factor (8, 9). The risk factors for cervical cancer include young marriage (<16 years old), parity, hormone, socioeconomic, the use of contraception, genital organ hygiene and sexually transmitted infections including transmission of HPV virus (Human Papilloma Virus) as a result from a habit of exchanging sexual partners: those are considered as the main cause of cervical cancer (10, 11).

However, awareness of Indonesian married women on the early regular detection is still at low level. Researches found that the number of early detection action in Indonesia is less than 5% (12-14). In fact, the cervical cancer screening rate in Indonesia is also less than 5%, although it ideally should be at the level of 80%.

The majority of women who are diagnosed having cervical cancer did not take screening and did not fol-

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low-up with treatment after abnormal results found. Rohmawati et al. (15) say that there are several reasons why those situations occur: they are because of an expensive cost of medication and treatment, lack of knowledge and information on cervical cancer, lack of education background in general, low on economic background, lack of support from husbands and cultural aspects. Similarly, a study conducted by Manjari et al. (16) on the early detection of cervical cancer found that 52.8% of women of childbearing age have insufficient knowledge, so they do not have motivation to take early detection on cervical cancer. Sianturi et al. research (17) in 2017, with the title “*Inspection Visual of Acetic Acid (IVA) Strategy for Early Detection of Cervical Cancer at the Community Health Centre Namorambe Deli Serdang District*”, found that women of childbearing age in general have less knowledge on cervical cancer (44.4%) and have less attitude on taking early detection and treatment (55.6%). The research also found that no one takes *Inspection Visual of Acetic Acid (IVA)* or pap smear examination. In addition, a research conducted (18) on the relationship between knowledge on cervical cancer and taking pap smear examination, shows that there is low level of knowledge on cervical cancer at around 36.7% of women who have good knowledge on it. Data also shows that 80.6% of women has never done pap smear.

Another constraint on early detection of cervical cancer is a cultural aspect: women are reluctant to conduct an examination due to their embarrassment feeling where they consider that a vital organ is something very privacy. Factors like feeling taboo and the examination contradicts to religious values. They argue that there is possibility of male doctors take place in conducting treatment; this results to women not taking an examination (19). There is also a problem of fear if the examination result is positive, they are fear of pain during examination, and are worried or anxious on early detection (20). However, Sianturi et al. (17) state that although conducting IVA test does not against religious values (80.3%), but the test is believed to create fear in relation to the result of the examination (90.1%). There is an embarrassment culture (85.1 %), although the examination is not prohibited by religion (80.3%).

Low number on early detection of cervical cancer is closely related to knowledge of women of childbearing age on cervical cancer, no ability of women of childbearing age to prevent cervical cancer, unaffordable cost, and lack of information on cervical cancer as well as limitation of human resources/officers at community health services. Community empowerment aims to improve the ability of the community i.e. women of childbearing age (21). Community empowerment can be interpreted as health development

based on values of individual, family and society in accordance with the socio-cultural diversity, the need to tackle problems and considering community potential (22). Therefore, people in society are required to change their life and environment independently.

Research methods

This study employs a quasi-experimental research using pre-test and post-test group design approach without control. Interventions of empowerment of women of childbearing age were conducted through counseling, education and training in two groups of communities: Perwiritan and Moria. Both groups are religious associations for women in the area of community health service of Padang Bulan. Data were collected from November 2016 to July 2017.

Population in this study was women of childbearing age, at the interval age from 15 to 49 years old and they are members of Perwiritan and Moria in the area of community healthcare center in Padang Bulan, Medan. The inclusion criteria in this study were: first, they are women of childbearing age who are married; second, they have spouses/husbands; third, they frequently attend Perwiritan and Moria groups. While, exclusion criteria are women of childbearing age who are detected having cervical cancer and they rarely come to those groups of religious associations.

The Perwiritan group is a group of women who carry out religious learning process in order to instill religious values and norms (23). The Moria society is a gathering group of women in the center of the Karo Protestant Batak Church/GBKP. The Moria society is very dynamic in the sense of a strong character and behavior of Karo women. Selection of sample size was done by using hypothesis test for a population proportion/one-sided test (24) quoted from Murti B. (25) in order to obtain a minimum sample size at 45 respondents. In order to avoid the drop out of sample or loss to follow-up, 60 respondents were taken from Perwiritan and Moria groups. This study employs purposive sampling technique.

Questionnaires consisting of 25 items of questions were used as an instrument to measure knowledge of respondents. Those questions have been tested in terms of their validity through the validity of the content (expert validity) through doctors Obgyn and community health center's officers. Reliability test has also been conducted using Cronbach alpha on knowledge at 0.694 or 69.4% and at 0.613 or 61.3% regarding questions in relation to attitude. To assess the effect of empowerment of women of childbearing age on cervical cancer prevention, Multivariate Logistic Regression Test has been conducted.

Results

From the results of the study based on the characteristics of women of childbearing age in the prevention of cervical cancer on knowledge, attitude and action of respondents in the groups of Perwiritan and Moria it can be seen that respondents generally have age more than 40 years old (80.0%), and high school educational background (56.7%). Women of childbearing age who are unemployed are mostly housewives (60.0%). Women of childbearing age who have income more than 3 million rupiah are around 63.3%. Women of childbearing age, who have income less than 1 million rupiah, are 20.0%. Generally, women of childbearing age got married when they were more than 20 years old (93.3%), although there are some women of childbearing age married before reaching 20 years old (6.7%). Women of childbearing age generally have 3 or 5 pregnancy time (53.6%) and have experience of 1 to 2 maternity (53.3%). Generally, women of childbearing age have sex when they were more than 20 years old (96.7%), although there are women of childbearing age married when they were less than <20 years old (3.3%). Women of childbearing age are generally married only one time (93.3%) and they are not smoking (93.3%). Basically, all respondents have no family history on cervical cancer (93.3%). 63.3% of women of childbearing age do not use contraception.

Distribution of knowledge, attitude and behavior

Distribution of knowledge, attitude and behavior of women of childbearing age in the prevention of cervical cancer can be seen in Table 1 below:

TABLE 1 - DISTRIBUTION OF FREQUENCY OF KNOWLEDGE LEVEL, ATTITUDE AND BEHAVIOR OF WOMEN OF CHILDBEARING AGE BEFORE AND AFTER EMPOWERMENT IN THE AREA OF COMMUNITY OF HEALTHCARE SERVICE IN PADANG DISTRICT, MEDAN IN 2017.

Variable	Intervention			
	Before		After	
	f	%	f	%
Level of knowledge				
Good	5	8.3	41	68.3
Poor	55	91.7	19	31.7
Attitude				
Positive	11	18.3	49	81.7
Negative	49	81.7	11	18.3
Behavior				
Yes	11	18.3	55	91.7
No	49	81.7	5	8.3
Number	60	100	60	100

Source: the researcher data, 2017.

Table 1 shows the level of knowledge of respondents before and after the empowerment. There are significance changes on the knowledge level before and after the empowerment where there are 91.7% of women of childbearing age who have poor knowledge on cervical cancer before the empowerment intervention and only 8.30% of respondents who have good knowledge on cervical cancer. However, knowledge level of respondents increase from poor to good where there are 68.3% of respondents having good knowledge on cervical cancer after the empowerment intervention, although there are still 31.7% respondents who have poor knowledge on it.

In terms of respondents' attitude toward cervical cancer, there is a significance increase before and after the empowerment process. There were negative attitudes of respondents before the empowerment at 81.7%, while there were only 18.3% having positive attitudes toward cervical cancer early detection. Those situations differ to respondents' attitude after receiving the empowerment intervention where 81.7% of respondents have positive attitude and there are only 18.3% respondents with negative attitude. Behavior of women of childbearing age to take medical examination either pap smears or *Inspection Visual of Acetic Acid (IVA)* has different percentage before and after the empowerment intervention. Before the empowerment process, 81.7% of women of childbearing age did not conduct examination either pap smear or IVA and only 18.3% women of childbearing age conducted pap smear or IVA. While, after the empowerment intervention, the action of women of childbearing age to perform examination pap smear or IVA increased to be 91.7% and there are only 8.3% respondents who did not take the medical examination.

The influence of empowerment on cervical cancer prevention

The influence of empowerment of women of childbearing age to knowledge, attitude and behavior on cervical cancer prevention can be seen in Table 2.

From Table 3, it can be seen that there is a significant influence of empowerment of women of childbearing age to knowledge, attitude and action on cervical cancer prevention before and after empowerment intervention, with p value at 0.001 which is smaller than $\alpha < 0.05$.

The relationship of confounding variable with knowledge, attitude and behavior

This section is to explain the relationship of age, education, work and income to knowledge, attitude and behavior using chi-square test. Findings from the statistical test can be seen in Table 4.

TABLE 2 - THE RELATIONSHIP BETWEEN AGE, EDUCATION, OCCUPATION, INCOME TO KNOWLEDGE OF WOMEN OF CHILDBEARING AGE IN THE AREA OF COMMUNITY HEALTHCARE CENTER IN PADANG BULAN, MEDAN IN 2017.

Variable	Knowledge				p value
	Good		Poor		
	n	%	n	%	
Age (year)					
< 40	8	13.3	4	6.67	0.771
>40	33	55.0	15	25.0	
Education					
Elementary – Junior HS	0	0.0	2	1.7	0.799
Senior High School	25	41.7	9	0.0	
University	16	26.7	8	0.0	
Occupation					
Employed	23	38.3	13	1.7	0.285
Unemployed	18	30.0	6	0.0	
Income					
< 1 million rupiah	9	15.0	3	1.7	0.036
1-3 million rupiah	6	10.0	4	0.0	
>3 million	26	43.3	12	0.0	

Source: the Researcher, 2017

TABLE 3 - THE INFLUENCE OF EMPOWERMENT FOR WOMEN OF CHILDBEARING AGE TO THEIR KNOWLEDGE, ATTITUDE AND BEHAVIOR IN THE AREA OF COMMUNITY HEALTHCARE SERVICE IN PADANG BULAN MEDAN IN 2017.

Variable	Mean ± SD	Mean		p value
		Minimum	Maximum	
Knowledge – before	13.95 ± 3.00	6	21	0.001
Knowledge – after	19.72 ± 2.64	10	24	
Attitude – before	65.88 ± 11.41	20	81	0.001
Attitude – after	78.23 ± 4.08	66	24	
Behavior – before	0.28 ± 0.45	0	1	0.001
Behavior – after	0.92 ± 0.28	0	1	

Source: the Researcher, 2017

From Table 2 it can be seen that there is no relationship between age, educational background, occupation and knowledge after empowerment intervention, with p value > 0.05. While income factor has relationship to knowledge with p value at 0.157 (becomes candidate to be further tested). After the test, there is a significant relationship between income and knowledge with p value at 0.036 with Exp. B at 0.46, meaning that if the income is more than 3 million rupiah, there will be more knowledge gained at 0.46 times from those who have income less than 3 million rupiah.

From Table 4 it can be concluded that there is no relationship between age, educational background, occupation, income and attitude of women of childbearing age after empowerment intervention with p value at > 0.05.

From Table 5 it can be seen that there is no relationship between age, educational background and oc-

cupation to action after the empowerment intervention, which is p value > 0.05. After the Logistic Regression-test, there is a significant relationship between action and women who are unemployed with OR 4.875, meaning that unemployed women are likely to take cervical cancer prevention action at 4,875 times, compared to employed women.

Discussion

The influence of empowerment of women of childbearing age on knowledge of cervical cancer prevention

Findings show that there is an increase of knowledge before and after the empowerment intervention. Before joining the empowerment process, the majority of

TABLE 4 - THE RELATIONSHIP BETWEEN AGE, EDUCATIONAL BACKGROUND, OCCUPATION TO ATTITUDE OF WOMEN OF CHILDBEARING AGE IN THE AREA OF COMMUNITY HEALTHCARE CENTER IN PADANG BULAN, MEDAN IN 2017.

Variable	Attitude				p value
	Positive		Negative		
	n	%	n	%	
Age (year)					
< 40	9	15.0	3	5.0	0.438
>40	40	66.7	8	13.3	
Education					
Elementary-Junior	0	0.0	2	3.3	0.698
Senior High School	25	41.7	9	15.0	
University	24	40.0	0	0.0	
Occupation					
Employed	28	46.7	8	13.3	0.752
Unemployed	21	35.0	3	5.0	
Income					
< 1 million rupiah	6	10	6	10.0	0.846
1-3 million rupiah	7	11.7	3	5.0	
>3 million rupiah	36	60.0	2	3.33	

Source: the Researcher, 2017

TABLE 5 - THE RELATIONSHIP BETWEEN AGE, EDUCATION, OCCUPATION, INCOME ON ACTION OF WOMEN OF CHILDBEARING AGE IN THE AREA OF COMMUNITY HEALTH CENTER IN PADANG BULAN, MEDAN IN 2017.

Variable	Action				p value
	Yes		No		
	n	F	n	f	
Age (Year)					
< 40	8	13.3	4	6.7	0.603
>40	47	78.3	1	1.7	
Education					
Elementary-Junior	1	1.7	1	1.7	0.603
Senior HS	31	51.7	3	5.0	
University	23	38.3	1	1.7	
Occupation					
Unemployed	32	53.3	4	6.7	0.141
Employed	23	38.3	1	1.7	
Income					
< 1 million rupiah	11	18.3	1	1.7	0.502
1-3 million rupiah	7	11.6	3	5.0	
>3 million	37	61.7	1	1.7	

Source: the Researcher, 2017

knowledge level of respondents was poor (91.7%) and there were a small percentage of respondents who have good knowledge on cervical cancer prevention, at only 8.30%. However, the percentage of women who have good knowledge increased to be 68.3% after receiving empowerment intervention, while only 31.7% of respondents have poor knowledge on cervical cancer prevention.

Results of statistic test (paired t-test) show that the-

re is the influent of empowerment of women of childbearing age on cervical cancer prevention to knowledge before and after empowerment with p value <0.001. There is the increase of knowledge after the empowerment intervention to women of childbearing age on cervical cancer prevention.

This result is similar to a study conducted by Mock et al. (26), suggesting that empowerment of women of childbearing age is an effective way to instill knowledge

and increase awareness of women of childbearing age especially in the prevention of cervical cancer. To increase awareness of women of childbearing age in the implementation of cervical cancer prevention can be influenced by several factors such as education, mass media/information, social culture, economy, environment and experience. In general, research found that the higher the education of women, the more easy for women to receive information so that more knowledge is gained. In most studies, women of childbearing age have high school educational background (56.7%) and they are unemployed in a formal work, instead they work as housewives (60%).

The results show that income factor which is more than 3 million rupiah has a significant relationship to knowledge, with p value at 0.036 and Exp.B at 0.46, meaning that by having income more than 3 million rupiah, women will have 0.46 times of knowledge compared to women who only have income less than 3 million rupiah. The amount of income affects people to visit health care center. In other words, women with low level income do not take screening treatment for cervical cancer prevention. There is possibility that poor women cannot access free screening service, child care, constraint on transportation to visit health care center, lack of social support and an inability to develop good relationships with their gynecologists (27). A study in Serbia also shows that low income people have low level in utilizing health care center, especially in the prevention of cervical cancer (28).

Empowerment of women of childbearing age through counseling, health education and training can increase knowledge, as well as can enhance awareness for themselves, families and communities on the health treatment and improvement issues (29, 30). Thus, women of childbearing age can be empowered through giving knowledge on cervical cancer, early detection and the availability of appropriate therapies (31, 32).

The influence of empowerment of women of childbearing age on attitude

Attitude and behavior on health issues will not be realized if they are not accompanied by other supporting factors. The awareness and motivation of self-individual to conduct IVA or pap smear examination will not be realized if women of childbearing age do not get sufficient basic knowledge and social support to prevent cervical cancer by checking IVA or pap smear examination.

Before the empowerment process, the attitude of women of childbearing age was generally negative (81.7%) and only 18.3% was positive. However, the percentage increased after empowerment intervention where the attitude of women of childbearing age rose up into positive attitude (81.7% respondents) and it was only 18.3% of respondents have negative attitude toward cervical cancer

prevention. Therefore, there is a change to be positive attitude after the empowerment process. This is relevant in the study of Azwar (33), where there are several factors influencing the change of personal attitude through personal experience such as the influence of others who are considered as important persons like husband, cultural influence, mass media influence, education and emotional.

From Table 4 it can be seen that there is no relationship between internal factors such as age, education, occupation, income and the attitude of women of childbearing age. Surprisingly, a factor which influences attitude changes is empowerment process with p value > 0.05. A study (34) suggests that an unfavourable attitude towards a Pap smear-test can negatively impact the utilization of test by women in healthcare. Montgomery's research (34) found that in order to reduce the incidence and mortality rate from cervical cancer in Uighur women, they receive extensive health education to raise awareness of cervical cancer and HPV is needed for prophylactic vaccination. Thus, the improvement of the attitude of women of childbearing age after empowerment process results from health education through counseling.

States that there was an increase in attitude ($p = 0,036$) after counseling in the intervention group (35). Similarly, Ismawarti et al. (20) found that the attitude of women of childbearing age on IVA examination before being given health education was at poor level of knowledge and they became good after health education intervention conducted.

Empowerment is one of the health promotion strategies shown directly to the community. Empowerment of women of childbearing age through counseling, education and health training are efforts to make people behave or adopt health behavior through persuasive approach, appeal, invitation, giving information, giving awareness and so on. All these are called as education or health education (36).

Empowerment through counseling, education and training for preventing cervical cancer can be conducted through providing information to women of childbearing age about the cause of cervical cancer, how to prevent cervical cancer with early detection, attitude to conduct inspection of Inspection Visual Acetic Acid (IVA) or pap smear. Empowerment of women of childbearing age can improve positive attitude and also motivate to cervical cancer prevention and can control or reduce the high incidence of cervical cancer.

The influence of empowerment of women of childbearing age on action

From this study, it can be understood that women of childbearing age before given empowerment, in general did not conduct examination on cervical cancer pre-

vention either through IVA or Pap smear (81.7%), while women of childbearing age who have checked but not routine were only 18.3%. However, after the empowerment process, there is a change on action of women of childbearing age with "yes" answer, they took precautions cervical cancer (91.7%) and it is only 8.3% of respondents to conduct action on cervical cancer examination.

This illustrates the interventions carried out by the process of empowerment through counseling, education and training, can improve the act of women of childbearing age to conduct cervical cancer prevention, meaning that women of childbearing age come to healthcare center to perform IVA examiner or pap smear. These findings are similar to a research (37) which found that there is the influence between cervical cancer counseling and motivation to conduct Visual Inspection test of Acetic Acid (IVA), where women of childbearing age have a higher motivation in performing visual inspection of acetic acid test after receiving trainings.

Data show that the majority of occupation of women of childbearing age is as housewives (60.0%). However, statistic test shows that there is no significant relationship between action and unemployed women of childbearing age, OR at 4,875, meaning that unemployed women of childbearing age will possibly take care of cervical cancer both with IVA and pap smear at 4,875 times compared with employed women of childbearing age. Housewives may not be too difficult to arrange time to come to healthcare center to conduct IVA or pap smear. While, employed women of childbearing age have difficulties to freely arrange a time to visit healthcare services.

This study is inconsistent with some research such as those by Dewi (38) and Theresia et al. (39) which conclude there is no significant relationship between employability and the action to take IVA examination. According to Nurjanah et al. (37), however, employability will lead to the opportunity of women of childbearing age to have more time and effort to share their experience among friends in the workplace in relation to cervical cancer. Women of childbearing age who work will be more likely to get more information on the IVA examination because they have a chance to receive infor-

mation. But they do not have a lot of time in doing IVA examination because of working time constraint. As for respondents who do not work, they have more time to conduct IVA examination but the flow of information about the IVA examination is limited.

There is an effect of unemployed women of childbearing age on the action to conduct IVA or pap smear examination is high at 4875 times after receiving empowerment process on cervical cancer prevention. Empowerment through counseling, education and training on cervical cancer prevention has impacts on motivation and awareness of women of childbearing age to perform Visual Inspection with Acetic acid (VIA) or pap smear. This is in line with the study of Machfoedz (40) where empowerment with health counseling is a kind of health education activity which is done by spreading the message, instilling confidence, so that people are not only aware, know and understand, but also they have willingness and can act in relation early detection of cervical cancer. This kind of method is considered to be more effective to increase knowledge and the community's ability to maintain healthcare services and improve community health. Empowerment can improve the behavior or actions of women of childbearing age on the prevention of cervical cancer and can also control or reduce the high incidence rate of cervical cancer.

Conclusions

There are several conclusions from this study. They are:

1. there is the influent of empowerment of woman of childbearing age to knowledge on cervical cancer prevention in the area of community healthcare center/Puskesmas in Padang Bulan Medan;
2. there is the influent of empowerment of woman of childbearing age to attitude on cervical cancer prevention in the area of community healthcare center/Puskesmas in Padang Bulan Medan;
3. there is the influent of empowerment of woman of childbearing age to action on cervical cancer prevention in the area of community healthcare center/Puskesmas in Padang Bulan Medan.

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