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ORIGINAL RESEARCH

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IMPACT OF HEALTH EDUCATION INTERVENTION ON KNOWLEDGE OF CERVICAL CANCER PREVENTION AMONG WOMEN IN BAHOROK'S VILLAGE, NORTH SUMATRA INDONESIA

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Abstract

Background: Cervical cancer is the second cancer disease that attacks women in the world, and it ranked the first in developing countries. It is expected that woman's knowledge about cervical cancer will prevent the incidence among them.

Objective: To examine the effect of health education on the knowledge level of women about cervical cancer prevention.

Methods: This was a pre-experimental study with one group pretest posttest at Bahorok's Village, North Sumatra, Indonesia on April to May 2016. There were 36 samples selected using purposive sampling. Paired t-test was used for data analysis.

Results: There was a significant difference in the mean value of women knowledge levels ($p=0.004$), with the increase of the mean of knowledge before intervention (mean= 1.0) and knowledge after the intervention (mean= 2.14).

Conclusion: There was a significant effect of health education in increasing the level of women knowledge about prevention of cervical cancer. It is suggested that that health education should be done routinely to increase women knowledge in order to prevent cervical cancer.

Keywords: cervical cancer; health education; women; knowledge

INTRODUCTION

The cancer has surpassed heart disease as the top cause of death for Hispanics in the United States, it is even more critical to focus on early detection of cancer in this population ([Gebrie, Belete, Lemlem, & Woreta, 2015](#)). Cervical cancer is a malignant tumor growing inside the neck of the uterine/the cervix of the lowest part from the uterine that it sticks on the branch the top of the vagina. Cervical cancer usually attacks old lady 35-55 years, which 90 % from cervical cancer originating from an squamous that lines the cervix of and 10 % the remaining one from the cell in attempting to

balance their glands mucus on a tract of cervical region and inside the uterine ([Handayani, Suharmiati, & Ayuningtyas, 2012](#); [Priya, 2013](#)). Cervical cancer is a highly prevalent cancer in women all over the world, which causes about 300,000 deaths each year, continues to be the leading cause of death among gynecological malignancies. Although the cervical cytology screening benefits a lot in the early diagnosis and treatments, cervical cancer outcomes vary significantly ([Wan et al., 2014](#)).

The problem of cervical cancer started from the presence of a viral infection HPV especially stems from poor behaviors, early sex, and having lots of sex partner. Based on the World Health Organization (WHO), 630 million women get infected cervical cancer and daily lives 600 women in the world ripped through them. Each year has 500.000 new cases of cervical cancer in the world ([Soebachman, 2011](#)). In developed countries, the incidence of cervical cancer is about 4% of all cancer incidences in women, while in developing countries, for example in South Asia and Southeast Asia reaches above 15 %. The numbers of the incidence of cervical cancer in Latin America and sub-Saharan Africa are the same with its numbers in Asia, estimated incidence of cervical cancer in the Philippines (age-standardized rate (ASR: 20.9 per 100,000), Thailand (ASR: 19,8) and Vietnam (the ASR: 20,2) ([Emilia, Kusumanto, Hananda, & Freitag, 2010](#)).

According to the data of Indonesia Cancer Foundation, the prevalence of woman with cervical cancer in Indonesia is considered to be high, every day found 40 - 45 new cases with the number of deaths of 20 - 25 people. The number of women at risk of cancer uterine is 48 million people. Therefore, Indonesia is considered as a country with the highest incident cervical cancer in the world, with the odds 66 % of mortality ([Halimatusyaadiah, 2016](#)).

METHODS

Study design

The design used in this study was a pre-experimental study with pretest-posttest without control group to determine the influence of health education on the level of women knowledge about prevention of cervical cancer. This research was conducted at Bahorok's Village North Sumatra Indonesia during 2 months between April and May 2016.

Sample

The population is the whole object of study or the object under study ([Notoatmodjo, 2014](#)).

The population in this study was all women who lived in the Village of Bahorok Village as many as 120 people. There were thirty-six samples were selected by using the purposive sampling techniques. The inclusion criteria were the women lived at Bahorok Village aged 35–55 years, had good verbal communication, conscious, married, had been willing to be respondents and understood Indonesian language.

Intervention

Health education was done at the Office of the Principal of Bahorok Village. The health education was performed for 25 minutes by the researcher by explaining about cervical cancer definition, signs and symptoms, causes, risk factors, prevention and suggestion for early detection. The media used were pictures and brochure containing about that information.

Instrument

The questionnaire used in this study is designed by Nursanti to measure of the women's knowledge about the prevention of cervical cancer. The validity and reliability test of the instrument have been examined by previous researchers in Indonesian language ([Nursanti, 2014](#)). The questionnaire is divided into parts, namely the identity of the respondents and question consisting of 20 statements using multiple-choice question with total scores (20). The scores of respondents are converted into the three category: good (16 – 20), enough (12 – 15) and less (≤ 11) ([Notoatmodjo, 2014](#)).

Ethical consideration

Ethical approval of this research was obtained from The Research Ethics Commission of Nursing Faculty of North Sumatra University, with approval number: 1291/III/SP/2016. Each participant signed informed consent prior to data collection.

Data analysis

To determine the influence of health education on the levels of knowledge among women, Paired t-test was used.

RESULTS

Before intervention, the majority of respondents had less knowledge (22.2%) and enough knowledge (77.78) about cervical

cancer prevention, and after given intervention there was an increase of knowledge to good category (91.7%) in each group of age (See **Table 1**).

Table 1 Frequency distribution of the knowledge level of woman about cervical cancer prevention before and after given health education of cervical cancer prevention based on age (N=36)

Age	Knowledge (Before)						Total		Knowledge (After)						Total	
	Good		Enough		Less		f	%	Good		Enough		Less		f	%
	f	%	f	%	f	%			f	%	f	%	f	%		
35-40	0	0	13	76.47	4	23.5	17	100	16	94.12	1	5.88	0	0	17	100
41-45	0	0	8	80	2	20	10	100	10	100	0	0	0	0	10	100
46-50	0	0	6	75	2	25	8	100	6	75	2	25	0	0	8	100
51-55	0	0	1	100	0	0	1	100	1	100	0	0	0	0	1	100
Total	0	0	28	77.78	8	22.2	36	100	33	91.7	3	8.3	0	0	36	100

Table 2 Frequency distribution of the knowledge level of woman about cervical cancer prevention before and after given health education of cervical cancer prevention based on educational level (N=36)

Education	Knowledge (Before)						Total		Knowledge (After)						Total	
	Good		Enough		Less		f	%	Good		Enough		Less		f	%
	f	%	f	%	f	%			f	%	f	%	f	%		
Elementary	0	0	1	100	0	0	1	100	1	100	0	0	0	0	1	100
Secondary	0	0	3	75	1	25	4	100	3	75	1	25	0	0	4	100
High	0	0	9	90	1	10	10	100	10	100	0	0	0	0	10	100
D3	0	0	13	72.2	5	27.7	18	100	16	88.8	2	11.1	0	0	18	100
Bachelor	0	0	2	66.6	1	33.3	3	100	3	100	0	0	0	0	3	100
Total	0	0	28	77.7	8	22.2	36	100	33	91.7	3	8.3	0	0	36	100

Based on table 2, of 36 participants, 28 (77.78%) had enough knowledge and 8 (22.22%) had less knowledge about cervical cervix prevention before intervention, while

after given intervention the majority of participants (91.7%) had good knowledge about the prevention of cervical cervix.

Table 3 The influence of health education on the level of knowledge in women about cervical cancer prevention using Paired t-test (N=36)

Knowledge	Mean	N	SD	Df	P-value
Before	1.00	36	0.00	35	0.004
After	2.14	36	0.48	35	

Table 3 shows that the mean level of knowledge of women on the prevention of cervical cancer before given the health education was 1.00, with standard deviation of 0.00, while after the health education the mean value of knowledge increased to 2.14, with standard deviation of 0.48. Paired t-test showed p value = 0.004, which indicated that there was a significant effect of health

education on the level of knowledge of women about cervical cancer prevention.

DISCUSSION

The aim of this study was to examine the effect of the health education on the level of women knowledge about prevention of

cervical cancer. Findings of this study revealed that there was a significant increase of knowledge level after intervention ($p < 0.05$).

This study provides the insight of knowledge that health education using brochure is still effective to increase the knowledge of women in preventing cervical cancer, particularly in North Sumatra Indonesia, although we are living in the digital era today. In fact, it is not about the media we use, but how we actually deliver the information is the key.

In addition, seen from the age and education of the respondents, this study indicated that the use of media in health education increased each group of respondents as well as each educational group. This contradicts the previous study ([Wawan & Dewi, 2010](#)) stated that age is an important thing in influencing knowledge. The increasing age will also change the physical and psychological aspects of the person, which is in terms of the psychological aspects; the level of thinking of someone will be more mature and adult.

It is also in contrast with another study ([Supardi, 2013](#)) mentioned that the higher the education a person has, the more easily he/she receives information, and ultimately knowledge will be increased. On the contrary, if a person has a low level of education, it will inhibit the development of attitude of the person towards acceptance of the information and new values. In fact, in this study, there is no problem with the educational background of someone has, but it is about how they receive the information from the health education.

Findings of this study are in line with previous studies indicated that there was an increase of knowledge about the care of patients with asthma after health education ([Winangsit, Maliya, & Sahuri Teguh, 2014](#)), supported by another study stated that there was an increase of teacher's knowledge about cervical cancer screening after health education ([R. E. Chinwe & R. U. Abigail, 2015](#)). The age restriction on respondents at this research, seen from the incidence of cervical cancer, the majority

happened to age 35 - 55 years and also the education of respondent is elementary – bachelor only. Some of the results of previous study ([Ilter et al., 2010](#)) stated that women after health education on the benefits of the HPV vaccine in Turkey, their level of knowledge was better, similar with another study ([E. R. Chinwe & U. R. Abigail, 2015](#)) on the influence of health education on knowledge, attitude and practice of cervical cancer screening among secondary school teachers in the State of Enugu, which revealed that there was a significant change in knowledge of the teachers. Thus, the presence of health education can transform one's knowledge into a better direction ([Ashtarian, Mirzabeigi, Mahmoodi, & Khezeli, 2017](#)).

Limitation of the study

As this study only involved one group pretest-posttest only, thus further study is needed to compare the effect of health education between experiment and control group to better understanding of the results of the impact of the health education applied in this study.

CONCLUSION

There was a significant impact of health education to increase of women knowledge about prevention of cervical cancer at Bahaorok Village. Therefore, it is suggested that health education using brochure can be used to increase women knowledge about prevention of cervical cancer, both in private and government hospitals.

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Declaration of Conflicting Interest

None declared.

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Author Contribution

This is the original study of the corresponding author.

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