

# Improvement of Knowledge in Reproductive Organ Cancer Prevention and Anticancer Herbal Compounding in Ambarketawang

Yoni Astuti<sup>1\*</sup>, Wahyu Joko Priambodo<sup>2</sup>, Indrayanti Indrayanti<sup>3</sup>

<sup>1</sup>Biochemistry Department, School of Medicine, Faculty of Medicine and Health sciences, 55183 Universitas Muhammadiyah Yogyakarta, Indonesia

<sup>2</sup>Medicinal Plant and Traditional Medicine Research and Development Center, Tawangmangu, Surakarta, Indonesia, Indonesia

<sup>3</sup>Patology Anatomi, School of Medicine, Faculty of Medicine and Health sciences, 55183 Universitas Muhammadiyah Yogyakarta, Indonesia

**Abstract.** Cervical cancer and breast cancer are cancers of the female reproductive organs. The aim of the study was to improve the knowledge of participants in preventing exposure to female reproductive cancer and herbs high in antioxidants as well as enhancing the skills of combining or choosing anti-cancer herbs. The method used is lectures and discussions. Analysis using pre-post-test and correlation tests. The result of this study is there's a 17.38% increase in decay and ability to select anti-cancer herbal ingredients. However, differences in education and age do not indicate any relationship. In conclusion, lectures and discussions on cancer, herbs and combination training of herbs can enhance the knowledge and skills of participants. Age and level of education have no influence on efforts to improve knowledge. The future research needs to test the daily beverages to the participants and their family.

## 1 Introduction

The rise of cancer-causing infections of the reproductive organs is a reproductive health issue faced by women today. Cervical and mammary cancer are cancers of the female reproductive organs. According to GLOBOCAN data (2018), there are 2,088,849 new cases of breast cancer worldwide in all ages and genders, with a mortality rate of 626,679 people [1]. In Southeast Asia, breast cancer cases increased in 2013, with the highest provision in Central Java at 11,511 cases and East Java at 9,688 cases [2].

The causes of cancer and cervical cancer, including the age factor Women aged > 30 years are at higher risk of breast cancer, and the risk increases until the age of 50 years and after menopause. This is because older women are more exposed to the hormones estrogen and progesterone [3]. both of which function in the control of breast growth and development [4]. Blood type factors, blood type A and positive rhesus have a higher risk of developing breast cancer than women who have blood type AB and negative rhesus

---

\* Corresponding author: [yon\\_i\\_astuti@yahoo.com](mailto:yon_i_astuti@yahoo.com)

which have a lower risk. Although the results of these studies have been confirmed by a study in 2015, many researchers have found no association between blood type and breast cancer risk, so this risk factor is still controversial [5].

Hormonal factors, the use of contraceptive pills can increase the incidence of breast cancer after use is discontinued for 5-10 years [6]. Using hormone combination therapy after menopause can increase the risk of breast cancer and the increased risk will be seen at least 2 years after use [7,8]. Lifestyle factors (obesity, lack of physical activity, drinking alcohol, smoking, lack of rest. Hereditary risk factors (8 out of 10) women who develop breast cancer have no family history of breast cancer. The risk may double in women who have a first-degree relative (mother, biological sister, daughter) with breast cancer. Exposure to the HPV (Human Papilloma Virus) sub-type sixteen and eighteen viruses caused by sexual activity at a young age, sexual intercourse with multipartners is one of the causes of cervical cancer.

These risk factors can be minimized if the culture of healthy living and self-awareness by knowing how to position themselves with the proximity of existing risks. Therefore, the importance of increasing awareness of health conditions is one way to reduce the increased risk of exposure to health problems, especially the risk of reproductive organ cancer in women. On the other hand, family members who have already been exposed to cancer can increase self-preservation from getting cancer by increasing their gathering skills, intake that can reduce cancer exposure, such as consuming herbs that have anti-cancer activities. Based on several studies by Astuti, Y et al [9–14]. about some herbs that have anticancer potential, antimigratory cancer cells, it turns out that around us there are plants that can be consumed as cancer prevention. Therefore, it is important for the community to know how to mix herbs that are anticancer for daily drinks. So with increased knowledge of risk factors and prevention of exposure to diseases, especially breast cancer and cervical cancer or improving reproductive organ health can be addressed by changing lifestyle including increasing knowledge about the intake of healthy beverages needed that have an impact on body health [3,15].

Movement organizations for improving public health include the PKK (Family Welfare Program), which has structures of the village level, the governor, and RT as well as health cards have structures at the branch level and branch level. So, an effort to supplement health promoters from several organizations is a strategic effort. In this study in the village area, it is important to involve both organizations to care about the health of female organs. Given that previous research has been carried out only in Aisyiyah organizations and ABA kindergarten teachers at the branch level and only the identification of cervical cancer.

Therefore, this research is more socially focused. This study is a continuation of previous community studies, and the application of the findings to anti-cancer drugs. Similarly, based on observations to management through WhatsApp applications, there has never been a study on mixing ingredients that have anti-cancer potential for health drinks. Besides, over time, there have been changes in the management of both the PKK and the Aisyiyah, so many have never received training on female reproductive organ cancer, especially on mixing anti-cancer substances. The aim of this study was to increase the knowledge of participants in preventing exposure to female reproductive cancer and making anti-cancer compounds.

## 2 Methodology

This study was cross sectional design with participants who meet the requirements. Participants as a cadre of the *Satuhu Lestari acceptor* of PKK Patukan were 10 females and respondents as committee of health Aisyiyah Patukan were 10 females.

By agreeing to a collaboration in this study, respondents are enlisted to carry out this study in tandem. The lecture approach and practice/demonstration were used in a sequence of activities to carry out this study. There are the following activities (treatments) in the series:

1. Lecturing and discussion on female reproductive cancer
2. Teaching about herbal medicine /jamu with high antioxidant
3. Training and discussion on compounding herbal with anticancer activity.

Pre-post-test were used to measure the effect of treatment of lecturing and teaching on above activities. The data present as percentage, T test was applied to measure significant different before and after treatment at CI 99%.

## 3 Results and Discussion

This study occurs on *Satuhu Lestari* acceptor of PKK Patukan also health cadres of Aisyiyah Gamping. Participants who agreed to this training had previously been asked for their willingness to follow the entire series of events to completion. On the appointed day, the participants who participated were 18 out of 20 participants who stated that they were willing to participate beforehand. The characteristics of the participants are as Table 1.

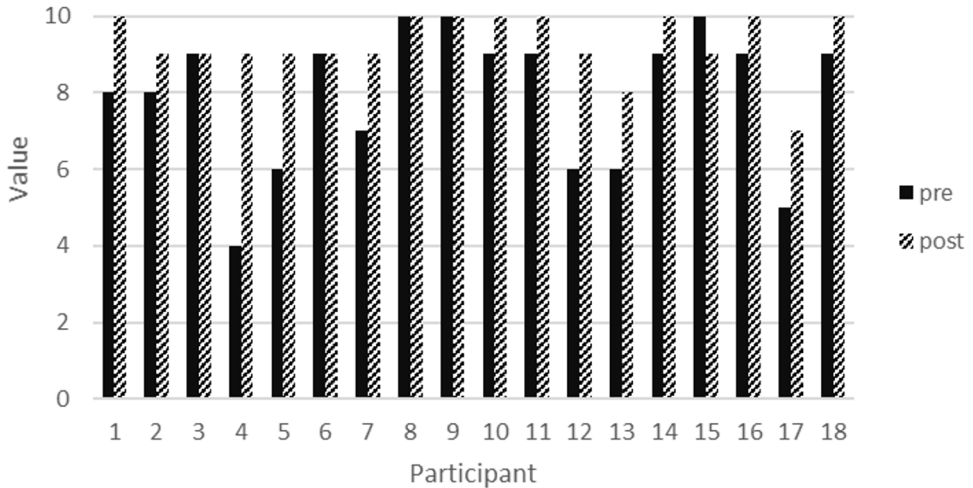
**Table 1.** Characteristic of participant (n = 18)

Characteristic of participant		Number	Frequency
Age (years old)	40-50	9	50%
	60-70	8	44%
	> 70	1	6%
Occupies	IRT	8	44%
	Pension	5	28%
	Active job	5	33%
Education Level	High School	12	66%
	Diploma 3/Diploma 4	3	17%
	S1/ Graduated	3	17%

Based on the data of table 1, most participants are still relatively young with an age range of 40-50 years. the h level of education is mostly high school, the profession as a housewife is also still actively working. In Dusun Patukan, people still think that women should get married quickly, so when they graduate from school, they immediately try to get married. After getting married, they become wives who take care of their children and husbands. While their husbands rarely have permanent jobs, their parents have land that is built for boarding houses. Very few try to continue their education for a better life, still living with their parents because they rely on houses rented by other people. However, there are

some whose wives then work when their children can be left to work, and the husband also try to get anything work to get income.

The mean pretest score was  $7.66 \pm 1.83$  and the posttest was  $9.28 \pm 0.83$ . This value includes knowledge and how to recognize cancer and herbal concoctions for anticancer. There was an increase in knowledge of 17.38% or 1.33 points. The t test between pre and posttest is 0.008016794, with a CI level of 99%. The distribution of pre post test results is in Figure 1.



**Fig. 1.** Pre and post test scores of participants, with an average increase of 1.33 points or 17.38%.

There are participants who already understand about breast cancer causes and prevention seen from the value, or score obtained. Some of the participants were health cadres in the *Satuhu Lestari* acceptor group. But overall, the knowledge of the participants increased, with a total of 17.38%. The existence of an increase after counseling and discussion is also found in previous activities both increasing knowledge for middle-aged, adolescents and the elderly [3,14,15]. Correlation test of several variables as in Table 2. The correlation between pre-test and posttest scores on age and education level showed no correlation. This means that participants with more age still interested in cancer and anti-cancer herbs. This is different from the incident in Sokoto Nigeria, participants with higher education were more concerned with health education than those with low education [16].

Based on Table 2, there is a significant correlation between the training and post-test significantly  $P < 0.01$ . This may indicate the level of enthusiasm of participants in attending training and counseling. One of the efforts to prevent non-communicable diseases, which can worsen a person's exposure to cancer is hyperglycemia [17]. High blood sugar levels are at risk for breast cancer [18,19]. Thus, blood sugar examination was conducted as one of the comorbidities of cancer. The average blood sugar levels of participants were normal as shown in the following table (Table 3).

**Table 2.** The correlation test between value of Pretest, Post test, Age also education level of participant

		pretes	postes	Edulev	Age
pretes	Pearson Correlation	1	.672 **	-,217	-,029
	Sig. (2-tailed)		,002	,388	,909
	N	18	18	18	18
postes	Pearson Correlation		1	,038	,057
	Sig. (2-tailed)			,880	,822
	N		18	18	18
Edulev	Pearson Correlation				-,047
	Sig. (2-tailed)				,852
	N				18

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table 3.** Blood Glucose of Participant

Blood Glucose level (mg/dl)	Number	Frequency
90-100	15	83%
100-150	3	17%

The participants are Satuhu Lestari cadres who know the importance of health and the health cadres are supposed to be activists who always have access to knowledge. Similarly enthusiastic about knowledge to maintain health and apply it in their lives. It was proven that the average blood sugar participants were normal, even though they were over 45 years of age. The results are similar to blood sugar tests in the Gamping Lor area for the elderly community [20].

## 4 Conclusions

The lecturing, discussion and training Of cancers, herbal and compound of herbal with anticancer able to increase in knowledge of cancer, herbal and skill to combine herbal with anticancer activity as 17, 38%. But Age and level of education have no influence on efforts to improve knowledge. The future research needs to test the daily beverages to the participants and their family.

## Acknowledgements

We would like to thank LP3M for supporting this activity. Also thank to Nabila Qisthi S, M. Azka Failasuf, Ghafari NR for preparing documentation.

## References

1. H. Sung, J. Ferlay, R. L. Siegel, M. Laversanne, I. Soerjomataram, A. Jemal, and F. Bray, *CA: A Cancer Journal for Clinicians* **71**, 209 (2021).
2. M. Triharini, E. Yunitasari, N. K. A. Armini, T. Kusumaningrum, R. Pradanie, and A. Nastiti, *Jurnal Pengabdian Masyarakat Dalam Kesehatan* **1**, 14 (2019).
3. S. Adenina, Z. Zakiyah, D. D. Sjahruddin, A. R. Isnaeni, S. Z. Syahroni, S. R. Ningsih, and N. Hannak, *Jurnal Kreativitas Pengabdian Kepada Masyarakat (PKM)* **5**, 2170 (2022).
4. H. Hasanah, *Sawwa: Jurnal Studi Gender* **11**, 229 (2016).
5. N. Mirani, *Jurnal Pengabdian Masyarakat Darussalam* **1**, (2022).
6. A. Wibowo and R. A. Widyasari, *Jurnal Inovasi Dan Kewirausahaan* **2**, (2013).
7. Y. Astuti and A. Primasari, *Indonesian Journal of Cancer Chemoprevention* **11**, (2020).
8. Directorate General of PP & PL, *Technical Guidelines for Breast Cancer and Uterine Cancer Control* (Kementerian Kesehatan Republik Indonesia, Jakarta, 2013).
9. Y. Astuti, A. Suharto, S. Harimurti, and W. Priambodo, *Mutiara Medika: Jurnal Kedokteran Dan Kesehatan* **22**, 38 (2022).
10. Y. Astuti, A. Suharto, S. Harimurti, H. H. Prinanda, and W. J. Priambodo, *Bali Medical Journal* **12**, 524 (2023).
11. Y. Astuti, W. Priambodo, S. Harimurti, and A. Suharto, in (2021).
12. Y. Astuti, W. J. Priambodo, Rahmah, and D. A. Septiyana, *Bali Med J.* **10**, 1385 (2021).
13. Y. Astuti and I. Indrayanti, *Prosiding Seminar Nasional Program Pengabdian Masyarakat* (2020).
14. M. Wati, N. Mariati, A. Rahmah, and S. A. Prabawati, *Humanism : Jurnal Pengabdian Masyarakat* **4**, 41 (2023).
15. E. Marfianti, *JAMALI* **25** (2021).
16. A. Sani, F. Naab, and L. Aziato, *Journal of Basic and Clinical Reproductive Sciences* **5**, 100 (2016).
17. F. Zhang, G. H. de Bock, P. Denig, G. W. Landman, Q. Zhang, and G. Sidorenkov, *Clin Epidemiol* **15**, 109 (2023).
18. B. Monzavi-Karbassi, R. Gentry, V. Kaur, E. R. Siegel, F. Jousheghany, S. Medarametla, B. J. Fuhrman, A. M. Safar, L. F. Hutchins, and T. Kieber-Emmons, *Cancer Metab* **4**, 7 (2016).
19. H. M. A. Osman and A. S. Faggad, *Asian Pacific Journal of Cancer Biology* **7**, 289 (2022).
20. Y. Astuti, A. Suharto, and R. Hulalata, *Jurnal Pemberdayaan: Publikasi Hasil Pengabdian Kepada Masyarakat* **6**, 101 (2022).