SOCIODEMOGRAPHIC STATUS AND KNOWLEDGE OF OVARIAN CANCER AMONG WOMEN IN WEST BANDUNG REGENCY

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ABSTRACT,

Cancer is one of the leading cause of death, both in developed and developing countries, and ranks fifth as the leading cause of death in Indonesia. According to the Ministry of Health of the Republic of Indonesia, more than 40% of woman malignancies are gynecological cancer. Ovarian cancer currently ranks second in gynecological cancer after cervical cancer, and most of its patients were diagnosed at advanced stage. Early detection of ovarian cancer is an important thing to do, both by healthcare workers and public, so that treatment can be given earlier and patients can have a better survival rate and prognosis. This is a quasi experimental study with one-group pretest-posttest design. Sampling is done by purposive sampling method with the inclusion criteria of women who are healthcare workers and residents in West Bandung Regency. Primary data were collected using a research questionnaire consisting of 24 questions about ovarian cancer; before (pretest) and after (posttest) lecture. Sociodemographiccharacteristics and level of knowledge analysis were carried out using the SPSS version 23.0 for Windows. Data collection was conducted on 80 respondents, consisting of 20 healthcare workers and 60 residents from 32 sub-districts in West Bandung Regency. There is an increase in knowledge that is statistically significant (p-value <0,05), both in healthcare workers and residents groups. The level of knowledge of ovarian cancer is higher in women with higher education, working, and higher household income with p-value <0,05. There is a significant increase inknowledge of ovarian cancer among women in West Bandung Regency, with higher knowledge in women with higher education, working, and higher household income.

Keywords:early detection, knowledge, lecture, ovarian cancer, sociodemographic

INTRODUCTION

Cancer is one of the leading cause of death, both in developed and developing countries. In 2012, there were an estimated 14.1 million new cases of cancer and 8.2 million deaths caused by cancer. Of these, 57% of new cases and 65% of deaths occur in developing countries.[1] Cancer ranks fifth as the leading cause of death in Indonesia, with the number of patients increasing year by year along with the increasing of women's life expectancy in Indonesia. The Ministry of Health of Republic of Indonesia estimates the incidence of cancer is 100 per 100,000 population. More than 40% of malignancies in women are gynecological cancers.[2]epidemiological data obtained from Histopathological Data of Cancer in Indonesia 2002, Department of Health-Registry Body of Indonesian Specialist of Pathology Association-Indonesian Cancer Society; Various Hospitals in big Cities in Indonesia. Indonesia is an Archipelago with a total area of 1,922,570.00 km(2

Ovarian cancer is one of the causes of high morbidity and mortality in the world, with incidence of 4% of all cancer cases. Ovarian cancer is the seventh most prevalent cancer and the eighth leading cause of cancer death in the world, with a total of 238,700 cases and 151,900 deaths in 2012.[3]Inc., a subsidiary of Merck KGaA, Darmstadt, Germany, which was released at the Union for International Cancer Control World Cancer Congress in Paris in November 2016. The original report can be found at https://www.cancer.org/health-care-professionals/our-global-health-work/global-cancer-burden/global-burden-of-cancer-in-women.html. Staff in the Intramural Research Department of the American Cancer Society designed and conducted the study, including analysis, interpretation, and presentation of the review. The funding sources had no involvement in the study design, data analysis and interpretation, or preparation of the reviewThere are striking disparities in the global cancer burden in women, yet few publications highlight cancer occurrence in this population, particularly for cancers that are not sex specific. This article, the first in a series of two, summarizes the current burden, trends, risk factors, prevention, early detection, and survivorship of all cancers combined and seven sites (breast, cervix, uterine corpus, ovary, colorectum, lung, and liver In 2017, in the United States there were 22,440 new cases with mortality rate of 14,080 patients, and ranked as the fifth cause of cancer death in women in the United States.[4]"ISBN" : "1542-4863 (Electronic

The incidence of ovarian cancer in developing countries such as Indonesia is increasing every year. In Indonesia, based on national cancer registry data in 2012, ovarian cancer still ranks second in gynecological cancer (23.43%) after cervical cancer (63.39%).[5]Stage I ovarian cancer (limited to the ovary) can be cured in 90% of patients. However, only 20% of patients are diagnosed at this stage because of the lack of specific symptoms and the routine pelvic examinations that are not sensitive to diagnosis.[6]but such findings are subject to recall bias. The aim of this study was to provide an objective evaluation of symptoms that precede a diagnosis of ovarian cancer. METHODS: Medicare provider claims linked to records in the California Surveillance, Epidemiology, and End Results data base were utilized to extract diagnosis and procedure codes for 1985 women age 68 years or older who resided in California with ovarian cancer, 6024 elderly women with localized breast cancer, and 10,941 age-matched, Medicare-enrolled women without cancer. Prevalence of rates of symptom-related diagnoses and procedure codes in Medicare claims records were obtained

during 3-month periods up to 36 months before diagnosis of ovarian cancer. RESULTS: From 1 month to 3 months before patients were diagnosed with ovarian cancer, the frequency and adjusted odds ratios (ORsIn 2016, ovarian cancer was ranked second with the highest number of outpatients in Hasan Sadikin General Hospital with 1,082 patients (10%) after cervical cancer. Of 1,082 outpatients, 18% were new patients with the majority of diagnosis at an advanced stage (stage II, III, and IV).[7]

5-year survival rate of ovarian cancer patients at Cipto Mangunkusumo General Hospital is 50% (stage I), 40% (stage II), 20% (stage III), 0% (stage IV), and 54.8% overall.[2]epidemiological data obtained from Histopathological Data of Cancer in Indonesia 2002, Department of Health-Registry Body of Indonesian Specialist of Pathology Association-Indonesian Cancer Society; Various Hospitals in big Cities in Indonesia. Indonesia is an Archipelago with a total area of 1,922,570.00 km(2 Because diagnosis at an early stage is related to a better survival rate, early detection of ovarian cancer is important, so that treatment is given faster and patient will have a better prognosis.[8]but can be cured in up to 90% of cases if diagnosed while still limited to the ovaries. Given the low prevalence of ovarian cancer in the general population, an effective screening strategy must not only have a high sensitivity for early-stage disease (>75%

West Bandung Regency has a life expectancy of 69.39 years. This number is still below the national average, which is 71 years. The highest life expectancy is in the northern region (Lembang and Parongpong). Meanwhile, the lowest is in the southern region (Cililin, Sindangkerta, Cipongkor, Gununghalu, and Rongga). Health is one of the factors that influence life expectancy in an area, and special attention must be given, especially in increasing the knowledge of healthcare workers and also residents in the area.

In the framework of the *Hibah Internal Universitas Padjadjaran*, we conducted an activity targeting the reproductive age women, including healthcare workers and residents inWest Bandung Regency. The goal is to determine the characteristics of women in West Bandung Regency and to increase their knowledge about ovarian cancer, especially for early detection.

METHODS

This is a quasi-experimental study with one-group pretest-posttest design. Sampling is done by purposive sampling method with the inclusion criteria of women who are healthcare workers and residentsliving in West Bandung Regency. Data were collected using a research questionnaire consisting of 24 questions about ovarian cancer, including knowledge of female reproductive organs, detection of ovarian cancer, and diagnosis and treatment of ovarian cancer.

Primary data retrieval was done by giving questionnaires to respondents before lecture (pretest) to measure their initial level of knowledge about ovarian cancer. Questions are divided into four types to avoid cheating between respondents while working the questionnaires. Lecture was done once with the distribution of modules to respondents. The speaker gave lecturesabout anatomy of female reproductive organs, tumors in female reproductive organs, and ovarian tumors (clinical signs, early detection, treatment, and follow-up plans at the primary healthcare facility). The posttest questionnaire was given after all the topics were given by the speaker to determine the increase in level of knowledge of healthcare workers and residents about ovarian cancer.

Data analysis was performed using SPSS version 23.0 for Windows. Descriptive analysis was performed to describe sociodemographic characteristics of the respondents. For the significance of the influence of lecture, the analysis was carried out on groups of healthcare workers and residents groups. The normality test is done using Saphiro-Wilk or Kolmogorov-Smirnov test, then paired T-test is used if the data distribution is normal, and Wilcoxon Signed Rank Test if the data distribution is not normal. Comparative analysis of pretest and posttest scores based on sociodemographic factors was performed using unpaired T-test (equal distribution) or Mann-Whitney test (unequal distribution) to compare two groups, and the Kruskal-Wallis test to compare more than two groups. The results of the analysis are presented in the form of table.

RESULTS AND DISCUSSION

Data collection was carried out in November 2018 at HBS Hall Cimareme, West Bandung Regency, with total of 80 respondents, consists of 20 healthcare workers (4 doctors and 16 nurses/midwives) and 60 residents from 32 sub-districts in West Bandung Regency. Sociodemographic characteristics of respondents are described in Table 1.

Table 1. Sociodemographic Characteristics of Respondents

No.		Characteristics	N	(%)
1	Respondents	Healthcare workers	20	25
		Residents	60	75
2	Age	<20 years	2	2,5
		20 – 29 yeard	7	8,8
		30 – 39 years	20	25
		40 – 49 years	37	46,2
		50 – 59 years	14	17,5
3	Education	Elementary school	10	12,5
		Junior high school	18	22,5
		Senior high school	29	36,2
		Diploma 3	14	17,5
		Diploma 4/Strata I	8	10
		Strata II	1	1,3
4	Occupation	Doctor	4	5
		Employee	1	1,2
		Housewife	56	70
		Government employee	18	22,5

		Not working	1	1,3
5	Income	Lower income	31	38,8
		Lower-middle income	33	41,2
		Upper-middle income	11	13,7
		Upper income	5	6,3

From Table 1, the highest number of respondents had age 40-49 years as many as 37 people (46.2%), high school education as many as 29 people (36.2%), and occupation as housewives as many as 56 people (70%). The household income is categorized into lower income (<\$ 82.9 ≈ <Rp1,300,000.00), lower-middle income (\$ 82.9 - <\$324 ≈ Rp1,300,000.00 - <Rp4,715,800), upper-middle income (\$324 - \$1,004 ≈ Rp4,715,800 - Rp14,613,000), and upper income (> \$1,004 ≈> Rp14,613,000) based on World Bank classification[9] with the highest monthly household income is lower-middle income as many as 33 people (41.2%).

Table 2. Obstetrics Characteristics of Respondents

No		Characteristics	N	(%)
1	Parity	0	4	5
		1	10	12,5
		2	36	45
		3	21	26,2
		>3	9	11,3
2	Contraceptive	Not using any	20	25
		Hormonal	20	25
		Non hormonal	40	50
3	History of tumor in respondents	Yes	5	6,3
		No	75	93,7
4	Family history of tumor	Yes	5	6,3
		No	75	93,7
5	History of obstetrical exam-ination	Never	15	18,7
		Every year	31	38,7
		Every 2 years	9	11,3
		Every 5 years	13	16,3
		Once in a lifetime	12	15

Table 2 explains the characteristics of respondents based on obstetric data. It was found that the most results were parity 2 as many as 36 people (45%), use of non-hormonal contraceptive as many as 40 people (50%), no tumor history in participants as many as 75 people (93.7 %), not having family history of tumor as many as 75 people (93.7%), and having an obstetric examination every year as many as 31 people (38.7%).

Table 3. Increased Knowledge of Ovarian Cancer

Score	Pretest N	Pretest %	Posttest N	Posttest %	Pretest Mean	Posttest Mean	Increased Knowledge	p-value
≤ 50	51	63,75	11	13,75				
51-75	23	28,75	43	53,75	50,1	69,1	37,9%	0,000
≥ 76	6	7,5	26	32,5				

Overall (Table 3) before the lecture, most respondents had low knowledge with score below 50 as many as 51 people (63.75%), moderate knowledge with score of 50-

75 as many as 23 people (28.75%) and high knowledge with score above 75 is 6 people (7.5%). After the lecture, respondents with low knowledge were 11 people (13.75%), moderate knowledge was 43 people (53.75%), and high knowledge was 26 people (32.5%). The average level of knowledge of respondents before lecture was 50.1 and after counseling increased to 69.1. Analysis results show that the increase in respondents' knowledge is 37.9% which is statistically significant with p-value or significance level of 0.000.

Table 4. Increased Knowledge in Healthcare Workers

No	Topic	Pretest Mean	Posttest Mean	p-value
1	Knowledge about reproductive organs	66,7	84,6	0,000
2	Ovarian cancer detection	62,5	80	0,004
3	Diagnosis and treatment of ovarian cancer	80	90,8	0,042

In the group of healthcare workers with total 20 respondents, the average level of knowledge before lecture was 69 and after lecture increased to 85. There was an increase in knowledge of 23.2% which was statistically significant with p-value 0,000 and no respondents encountered a decline from pretest score.

Assessment of level of knowledge is divided into three main topics: knowledge about the reproductive organs, detection of ovarian cancer, and diagnosis and treatment of ovarian cancer (Table 4). In the respondents of healthcare workers, there were increases in these three topics by 26.8%, 28%, and 13.5% respectively. This results are statistically significant with p-value 0,000, 0,004, and 0,042.

Table 5. Increased Knowledge in Residents

No	Topic	Pretest Mean	Posttest Mean	p-value
1	Knowledge about reproductive organs	42,9	62,1	0,000
2	Ovarian cancer detection	43,3	58,3	0,000
3	Diagnosis and treatment of ovarian cancer	42,5	70	0,000

In the residents group of total 60 respondents, the average level of knowledge before lecture was 43.8 and after lecture increased to 63.8. There is an overall increase in knowledge of 45.7% which is statistically significant with p-value 0,000. The level of knowledge on the three main topics also experienced a statistically significant increase, but on each topic there were respondents who encountered a decline from pretest score (Table 5).

Comparative analysis of pretest and posttest scores based on sociodemographic factors was also carried out (Table 6), divided into age, education, occupation, and income factors. The age group is divided into below and above 40 years. Educational groupis divided into higher education (diploma, bachelor) and low (elementary, junior high, high school). Occupationalfactors are divided into working and not working. Income factor is divided into lower, lower-middle, upper-middle, and upper income.

Table 6. Comparison of Pretest and Posttest Score with Sociodemographic Factors

No	Sociodemographic Factors		Pretest Mean	p-value	Posttest Mean	p-value	Mean Increase of Knowledge	p-value
1	Age	<40 years	51,1	0,513	70,7	0,845	19,5	0,856
		>40 years	49,5		64,8		18,6	
2	Education	High	45,8	0,000	84,8	0,000	17,2	0,307
		Low	43,1		62,7		19,7	
3	Occupation	Working	66,8	0,000	83	0,000	16,1	0,114
		Not working	43,3		63,5		20,1	
4	Income	Lower	41,7	0,000	60,8	0,000	19,1	0,105
		Lower-middle	48,2		70,1		21,8	
		Upper-middle	67,4		80,3		12,9	
		Upper	76,7		89,2		12,5	

The results of the analysis showed that there were no significant differences in age factors, both at the pretest (p-value 0.513) and posttest mean (p-value 0.845). Significant differences were obtained at the pretest and posttest mean for education, occupation, and household income factors with a p-value or significance value of 0,000. However, the average increase in knowledge in all age groups, education, employment, and income did not show a statistically significant difference, with p-values of 0.856, 0.307, 0.114 and 0.105 respectively.

Ovarian cancer is one of the causes of the highest mortality and morbidity in the world with an increasing incidence. Unfortunately, most patients are diagnosed at an advanced stage (II, III, IV). Knowledge of early detection of ovarian cancer is needed so that this disease can be diagnosed at an early stage and improve the patient's prognosis and survival rate.

Overall, there was a significant increase in knowledge after lecture in this study, indicated by the increasing pretest and posttest scores. Before lecture, respondents mostly had low knowledge with scores below 50 (63.75%) and those with high knowledge (values above 75), only 7.5% of all respondents. After counseling, the majority of the results showed moderate knowledge (grades 50-75), which was 53.75% and the number of respondents with high knowledge increased considerably to 32.5%. This shows that the method of lectures and the distribution of modules is effective for increasing knowledge of ovarian cancer.

According to the Institute of Medicine (IOM), disparities in healthcare are complex relationships between economic, social and cultural factors. Socioeconomic factors have an influence on cancer risk factors. Household income, education and health insurance factors have an influence on access to appropriate early detection, treatment, and palliative care.10A study also state that knowledge about cancer prevention and treatment depends on a person's socioeconomic status. This difference can directly influence decisions in carrying out health behaviors.11

In this study, there were statistically significant differences in the score of the pretest and posttest of respondents according to educational, occupational, and income factors. For educational factors, women with higher education had a mean pretest of 45.8 and posttest 84.8, which showed an increase of 83.8%. While for women with low education the average pretest was 43.1 and posttest 62.7 so that it showed a lower increase of 45.5%.

For occupational factors, women who areworking also had a higher average score, which was 66.8 for pretest and 83 for posttest. While for non-worker groups, the average pretest was 43.3 and posttest 63.5. This is probably due to the fact that most of the women in the group of workers (20 out of 23 people) are healthcare workers, so they have better initial knowledge than the general public. Then, for household income factors, there is an increase in average score along with the increase in household income figures per month. These results are statistically significant, both on the results of the pretest and posttest.

These three findings are in accordance with the research conducted by Okobia et al. (2006) in Nigeria regarding breast cancer which showed that women with higher education, professional workers, and higher monthly household income had a better levels of knowledge than other groups.12

Other sociodemographic factors assessed in this study were age factors, with the finding that there were no statistically significant differences in the values of pretest, posttest, or increased knowledge in this group. This result is different from the research conducted by Grunfeld et al. about breast cancer which found that older women showed worse knowledge about risk factors for the disease.13

CONCLUSION

There is a significant increase in knowledge of ovarian cancer among women in West Bandung Regency, with higher knowledge in women with higher education, working, and higher monthly household income.

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