

Relationship of Mother Age And Paritas With Ovarium Cancer In General Hospitals of Dr. Zainoel Abidin Banda Aceh

Meri Yanti¹, Delfi Lutan², A Asfriyati²

¹Postgraduate Student Public Health Science University of North Sumatera, Medan, Sumatera Utara 20155, Indonesia

²University of North Sumatera, Medan, Sumatera Utara 20155, Indonesia
Corresponding Author: Meri Yanti

Abstract: Ovarium cancer is the leading cause of cancer deaths genital tract and beat the death rate from cervical cancer and uterine cancer. The cause of ovarium cancer is still not known with certainty. Some of the risk factors that contribute to the incidence of ovarium cancer such as maternal age and parity. This study aimed to analyze the relationship between age and parity with the incidence of ovarium cancer. Type analytic observational study with design. Cross sectional the population of female patients who visit and suffering from ovarium cancer in the seurune 3, and which are not suffering from ovarium cancer in Poli Surgery Regional General Hospital dr. Zainoel Abidin Banda Aceh as many as 180 people. Sample cases of 51 people. The method of data analysis is univariate and bivariate analysis with chi squaretest. The analysis showed no association of age with the incidence of ovarium cancer ($p = 0.046$) and OR of 3.997 (95% CI; 1.010 to 5.012). There is a relationship of parity with the incidence of ovarium cancer ($p = 0.026$) and OR of 2.496 (95% CI; 1.105 to 5.639). Suggested Regional General Hospital dr. Zainoel Abidin Banda Aceh to provide counseling and encourage ovarium cancer patients to always follow-up routine, screening and early detection. Patients are expected to be vigilant with age, because it is susceptible to various diseases including ovarium cancer and is expected to do a health check once a month

Keyword: Mother Age, Parity, Ovarium Cancer

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I. INTRODUCTION

Ovarium cancer is the most deadly reproductive diseases in women. More dangerous because there is no sure way to prevent this type of cancer or know early. A study reveals that 20,000 women will develop ovarium cancer in 2014, and another 14,000 will die from this disease. The risk of ovarium cancer was also higher in women who have a BRCA gene mutation. It must be so, the most frightening is that ovarium cancer is more difficult to detect than other cancers (irianto, 2015).

Ovarium cancer is the fourth leading cause of death in women. This cancer is the leading cause of cancer deaths genital tract and beat the death rate from cervical cancer and uterine cancer. The incidence of ovarium malignancies during pregnancy is not known accurately, approximately 5% of ovarium cancers are diagnosed in pregnant women are malignant compared with 15 to 20% in non-pregnant women, this is caused by the age of pregnant women who were younger (Cunningham, 2013).

Ovarium cancer ranks seventh in gynecological malignant tumor among women worldwide. Reported 224 747 new cases of ovarium cancer and 140 163 deaths from ovarium cancer in 2008. In the United States found 22 280 new cases of ovarium cancer and 15,500 deaths in 2012 (American Cancer Society, 2012). Figures ovarium cancer incidence in Indonesia is estimated as many as 2,314 cases (5.3%). In Indonesia, about 25-50% of deaths in women of childbearing age are caused by problems related to pregnancy and childbirth and reproductive system diseases e.g. ovarium cysts (MOH, 2010). Head of the Radiotherapy Department of Cipto Mangunkusumo Hospital Professor Soeharti Gondhowirardjo say, the number of cancer patients in Indonesia is increasing. Data from the Ministry of Health (MoH) in 2012 states, the prevalence of cancer at 4.3 to 1,000 people. Whereas previous data mentions a prevalence of 1 to 1,000 persons (MoH, 2013).

Based on data from Health Research Association in 2013, the prevalence of cancer in Indonesia reached 1.4 per mile. Prevalence is the number of old and new cases occurring in a certain period, with that number meaning that in Indonesia there are approximately two cases of cancer among the 1,000 inhabitants. Daerah Istimewa Yogyakarta is a province with the highest prevalence of cancer in Indonesia. Its prevalence is 4.1 per mil. The next sequence is 2 per mile, Central Java, and Bali, Bengkulu and Jakarta Special Capital

Region each 1.9 per mile. Meanwhile, the prevalence of cancer in Gorontalo 0.2 per mil, the lowest among all provinces in Indonesia.

Ovarium cancer disease commonly suffered by women aged 50 to 70 years. It is estimated that one in 20 women suffering from ovarium cancer this disease. The disease is said to be spread directly to the surrounding area through the lymphatic system and bias also spread to other parts of the abdomen and pelvis of women, or through the blood vessels so that it can also attack the lungs of patients (Saydam, 2012).

Regional General Hospital dr. Zainoel Abidin (RSUDZA) is a predicate Plenary state hospitals, or hospital stara with five-star and the highest referral center or hospital also referred to as a center for the whole area of the province. Every day with 20 to 25 cases of cancer or one of them died a day and diagnosed at stage III and IV, which had spread other part. It occurs in all cancers. In fact, when it comes time to handle the results of stage I can be good and have a life expectancy of 70% for the next five years. While on the distant stage IV results are not good and life expectancy of only 2% for the next five years, meaning that if a cancer patient then treated, chemotherapy and routine control, then after passing the five years he was considered to be free of cancer.

According to the medical records of inpatient and outpatient Regional General Hospital dr. Zainoel Abidin Banda Aceh (RSUDZA) showed the data of hospitalization in 2014 there were 87 cases ca.ovarium of 415 mothers (20.9%) were found dead four people. In 2015, there were 104 cases ca.ovarium of 310 mothers (33.5%) were found dead seven people. In 2016 there were 78 cases ca.ovarium of 278 mothers (28.1%) were found dead 11 people, while data on outpatient in 2014 there were 1,772 cases of ca.ovarium of 3,013 mothers (58.8%). In 2015, there were 193 cases of ca.ovarium of 1,020 mothers (18.9%). And in 2016 there were 1,156 cases of ca.ovarium of 3,223 mothers (35.9%) who visited to RSUDZA.

Based on data obtained in space seurune 3 January until in December 2016, the incidence of mothers who experienced ca.ovarium in dr. Zainoel Abidin as many as 361 people. Whereas in January until in June 2016, as many as 180 people. From the results of the initial interview of the 30 patients with ovarium cancer that comes with advanced stage obtained the information that there were several factors that led the mother had ca.ovarium. There were 10 patients between 45-60 years of age ranges from the city of Banda Aceh 5 people, while others are outside the city of Banda Aceh is coming from South Aceh, Southwest Aceh and Pidie. While there were 5 patients said that the number of pregnancies that have been born ≥ 5 times without abortion or miscarriage.

Based on the above research is conducted to analyze the relationship between age and parity with the incidence of ovarium cancer in the District General Hospital dr. Zainoel Abidin Banda Aceh. The study aims to determine the relationship of age and parity with the incidence of ovarium cancer in the District General Hospital dr. Zainoel Abidin Banda Aceh.

II. METHODS

The study was observational analytic study with case control design. Population. The female patients who visit and suffering from ovarium cancer in the seurune 3, and which are not suffering from ovarium cancer in Poli Surgery Regional General Hospital dr. Zainoel Abidin Banda Aceh i.e. from January until June 2017 as many as 180 people. 51 sample cases and 51 controls. Primary data is the variable age and parity through a questionnaire that will be done with the interview. Analysis of data using univariate and bivariate with chi square test.

III. RESULT AND DISCUSSION

1. Univariate Analysis

Table 1. Frequency Distribution of Age and Parity at Regional General Hospital dr. Zainoel Abidin Banda Aceh

Variable	Ovarium Cancer		No Ovarium Cancer	
		n%		n%
Minimum				
Risk (≥ 40 years)	34	66.7	24	47.1
No risk (< 40 years)	17	33.3	27	52.9
Parity				
has been spawned some children	26	51.0	15	29.4
Has had a child	25	49.0	36	70.6

The table shows that the group of ovarium cancer risk were maternal age (≥ 40 years) as many as 34 people (66.7%) and non-risk (< 40 years) were 17 (33.3%). Then, in the ovarium cancer group were not at risk of maternal age (≥ 40 years) were 24 people (47.1%) and non-risk (< 40 years) as many as 27 people (52.9%). Parity groups ovarium cancer patients has spawned some of the children were 26 people (51.0%) and that has given birth to a child as many as 25 people (49.0%). Then, in a group that is not parity of ovarium cancer patient has

given birth to several children as many as 15 people (29.4%) and that has given birth to a child as many as 36 people (70.6%).

2. Bivariate Analysis

Table 2. Relationship Age Mothers and parity with Ovarium Cancer Incidence in the District General Hospital dr. Zainoel Abidin Banda Aceh

Independent Variables	Ovarium Cancer		Ovarium Cancer Not		p	χ^2	OR (95% CI)
	n	%	n	%			
Minimum							
Risk (≥ 40 years)	34	66.7	24	47.1	0.046	3.997	2,250(1,010;5,012)
No risk (<40 years)	17	33.3	27	52.9			
Parity							
has been spawned several children	26	51.0	15	29.4	0.026	4.935	2,496(1,105;5,639)
has been giving birth to a child	25	49.0	36	70.6			

Results of cross tabulation analysis obtained $p = 0.046$ and OR of 2.250 with 95% CI = (1.010 to 5.012) means that there is a relationship with the mother's age the incidence of ovarium cancer. Patients suffering from ovarium cancer is 2,250 times the opportunities likely to age ≥ 40 years compared to patients not ovarium cancer. Cross-tabulation obtained value of $p = 0.026$ and OR of 2.496 with 95% CI = (1.105 to 5.639) means that there is a relationship of parity with the incidence of ovarium cancer. Patients suffering from ovarium cancer is 2,496 times the opportunities likely to parity has given birth to several children compared to patient's not ovarium cancer.

3. Age Relationship Motherwith Ovarium Cancer Incidence in the District General Hospital dr. Zainoel Abidin Banda Aceh

Based on result showed the majority of maternal age ≥ 40 years who suffered from ovarium cancer by 66.7%, whereas that is not suffering from ovarium cancer mostly maternal age <40 years at 52.9%. There is a relationship with the mother's age the incidence of ovarium cancer with $p = 0.046$ and OR of 2.250 (95% CI = 1.010 to 5.012) means that patients suffering from ovarium cancer is 2,250 times the opportunities likely to age ≥ 40 years compared to patients not ovarium cancer. Patients who have aged ≥ 40 years old are suffering from ovarium cancer compared to age <40 years. In line with the research Dhitayoni (2017) said that the incidence of ovarium cancer increased with age with a peak incidence at age are 41-50 years old and decreased again thereafter.

Based on the above, according to researchers at the age of 40 years is the age that had never had sexual intercourse so that their reproductive organs are already producing eggs or ova later when met sperm fertilization will occur (pregnancy). Therefore, age is prone to ovarium cancer in the reproductive period of 30%.

4. Parity relationship with Ovarium Cancer Incidence in the District General Hospital dr. Zainoel Abidin Banda Aceh

Based results showed the majority of patients with ovarium cancer have a lot of parity mother gave birth to several children by 51%, whereas that is not the Ovarium cancer with parity has given birth to a child by 70.6%. There is a relationship of parity with the incidence of ovarium cancer with $p = 0.026$ and OR of 2.496 (95% CI = 1.105 to 5.639) means that patients suffering from ovarium cancer is 2,496 times the opportunities likely to parity has given birth to a child than patients who are not ovarium cancer.

In line with the research Dhitayoni (2017) said there had been significant reduction in the number of patients with ovarium cancer among patients with parity ≤ 2 and > 2 . This is consistent with research - another study stating that multiparity have a protective effect against ovarium cancer. Increased parity could be expected to reduce the risk of developing ovarium cancer is associated with theory, *incessant ovulation* which states that the reduced number of ovarium ovulation will reduce the exposure to the possibility of gene mutations result epithelial cell repair after ovulation continue - constantly. During pregnancy occurs inhibition of ovulation and increase progesterone hormone which allegedly protective against ovarium cancer, and clearance of cells - cells that have undergone malignant ovarium. In the lactation period also increased levels of the hormone prolactin, which inhibits the production of gonadotropin hormones that inhibit ovulation. In addition, increase parity also associated with gonadotropin hormone theory, in which the low concentration of gonadotropin hormone during

pregnancy and lactation makes the risk of ovarium epithelial cells trapped in the surrounding connective tissue and cause the formation of inclusion cysts in the ovaries decreases (Su, 2013).

Parity is a risk factor for cervical cancer associated with the number of pregnancies resulting in a child birthing process may have a cumulative effect or also for the effect of decreasing the body's immunity thus increasing the risk of HPV infection. In addition it can also be due to the influence of hormones during pregnancy has an effect on the cervix that is the influence of progesterone that makes the likelihood of infection by HPV more easily.

Parity is the number of live births or the number of children held by a woman. In the case of parity release of ovum from the ovary, causing the production of estrogen for the proliferation of epithelial ovarium. Although there are several hypotheses that connect between parity with ovarium cancer but parity with ovarium cancer etiology is not clear. Several hypotheses revealed that high parity actually be a protective factor against ovarium cancer, one of which is the incessant ovulation hypothesis which states that at the time of ovulation will be damage to the ovarium epithelium. For this damage repair process takes a certain time. If this epithelial damage occurred many times, especially if before a complete cure is achieved, or in other words, the cells rest period is inadequate, then the repair process will be impaired so that it can occur transformation into neoplastic cells. It can be explained that women who have parity ≥ 2 times will reduce the risk of ovarium cancer.

Based on the above, according to the researchers that high parity at risk of reproductive health problems due to hormonal influences and decrease the body's immunity during pregnancy and the risk to avoid injury during childbirth so as to increase the risk of infection. Most of parity in this research is to bear many children. In fact, the higher the number of parity will further reduce the risk of ovarium cancer.

IV. CONCLUSION

Based on the research that has been done can be concluded as follows:

1. Factor maternal age effect on the incidence of ovarium cancer in the District General Hospital dr. Zainoel Abidin Banda Aceh, *p-value* 0.008 <0.05.
2. Family history factors influenced the incidence of ovarium cancer in the District General Hospital dr. Zainoel Abidin Banda Aceh, *p-value* 0.001 <0.05.
3. Parity factors affect the incidence of ovarium cancer in the District General Hospital dr. Zainoel Abidin Banda Aceh, *p-value* 0.002 <0.05.
4. Menarche factors affect the incidence of ovarium cancer in the District General Hospital dr. Zainoel Abidin Banda Aceh, *p-value* 0.029 <0.05.

The variables that most influence on the incidence of ovarium cancer is a family history, the second parity, maternal age third and fourth menarche. Variable family history has a value of OR 5.911 (95% CI 2.148 to 16.271) means that patients suffering from ovarium cancer is likely to 5.911 times the chance of a family history compared to patient's not ovarium cancer.

REFERENCES

- [1]. American Cancer Society, 2012. *Cancer Facts and Figures*. Available from :<http://www.cancer.org/Research/cancerFactsFigures/CancerFactsFigures/cancer-facts-figures-2012> (Accessed 10 May 2012).
- [2]. Cuningham G.F., *Obstertri Williams Volume 2*. Jakarta 2004 Jakarta : Buku Kedokteran EGC.
- [3]. Dhitayoni, I.A., 2017. Profil Pasien Kanker Ovarium di Rumah Sakit Umum Pusat Sanglah Denpasar-Bali Periode Juli 2013-Juni 2014. *Jurnal Medika*. 6(3): 1-9
- [4]. Irianto, K. 2015. *Kesehatan Reproduksi (Reproductive Health) Teori dan Pratikum*. Bandung : Alfabeta.
- [5]. Kementerian Kesehatan RI., 2013. *Laporan Nasional Riset Kesehatan Dasar (RISKESDAS) Tahun 2013*. Jakarta.
- [6]. Notoatmodjo, S. 2010. *Metodologi Penelitian Kesehatan*. Jakarta : Rineka Cipta.
- [7]. *Profil Rumah Sakit Umum Daerah dr.Zainoel Abidin Banda Aceh*, 2016.
- [8]. Saydam G.S., 2012. *Waspada Penyakit Reproduksi Anda*. Pustaka Reka Cipta. Bandung.
- [9]. Sastroasmoro, S. 2014. *Dasar-dasar Metodologi Penelitian Klinis*. Jakarta : CV, Sagung Seto.
- [10]. Su D, Pasalich M, Lee AH, dan Binns CW. Ovarium cancer risk is reduced by prolonged lactation: a case-control study in southern China. *American Journal of Clinical Nutrition*, 2013;97:354 – 359

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