

THE ASSOCIATION OF AGE AND PARITY WITH THE INCIDENCE OF OVARIAN
CANCER IN WOMEN OF CHILDBEARING AGE AT RSUP H. ADAM MALIK MEDAN
YEAR 2023

Median Jelita Lahagu¹, Herna Rinayanti Manururng², Febriana Sari³, Lisa Putri
Utami Damanik⁴

STIKes Mitra Husada Medan^{1,2,3,4}

hernayanti28@gmail.com

Received: 10-12-2024

Revised: 18-12-2024

Approved: 27-12-2024

ABSTRACT

Background: One of the reproductive health issues of concern is cancer. Cancer is one of the causes of death in the world. Ovarian cancer is known as the silent killer because in the early stages of the disease does not show early symptoms. Ovarian cancer is a deadly malignant disease in gynaecology, and one of the most malignant causes of death in the world. Maternal age and parity are several types of factors that can affect the incidence of ovarian cancer. This study aims to determine the relationship between maternal age and parity with the incidence of ovarian cancer at H. Adam Malik Medan Hospital in 2023. Methods: This study is a Cross Sectional study. The sample in this study was 79 women of childbearing age in the H. Adam Malik Hospital room with a ratio of 2: 1, namely 79 case groups (WUS with Ovarian Cancer) taken using simple random technique. Data analysis technique using Chi-Square Results: Based on the frequency of mothers whose age is at risk of ovarian ca as many as 27 respondents (52.9%), then in mothers with age who are not at risk as many as 9 respondents (32.1%). Then in mothers with no ovarian ca parity at risk as many as 15 respondents (41.1%) and in mothers with parity who are not at risk as many as 19 respondents (67.9%). The results of the Chi Square test obtained a p value of 0.124, this indicates that there is no significant relationship with parity on the incidence of ovarian ca at the Adam Malik Hajj Hospital in 2023. Conclusion: Based on the results of the study, it shows that mothers with at-risk age (>40 years) and mothers with at-risk parity (≤ 0 and >2) are more prone to ovarian cancer.

Keywords: Age, Parity, Ovarian Cancer

INTRODUCTION

One of the reproductive health issues of concern is cancer. Cancer is one of the causes of death in the world. Ovarian cancer is known as the silent killer because in the early stages the disease does not show early symptoms. Ovarian cancer is a deadly malignant disease in gynaecology, and one of the most virulent causes of death in the world (Agusweni, Dewi and E. Erwin, 2020).

The Sustainable Development Goals (SDGs) are a global action plan agreed by world leaders, including Indonesia, to end poverty, reduce inequality and protect the environment. The SDGs include 17 goals and 169 targets to be achieved by 2030. One of the SDGs is Good Health and WellBeing. Health issues are also a major concern in the sustainable development goals. Therefore, it is now mobilising healthy lifestyles and supporting the well-being of all ages. One of them is improving reproductive health. According to the Global Burden Cancer (Globocan), the incidence of ovarian cancer worldwide in 2018 was 295,414 and 184. 799 deaths. Although ovarian cancer has a

lower prevalence than breast cancer, it is three times more deadly than breast cancer (WHO, 2018).

Based on Globocan data in 2020, the number of new ovarian cancer cases in Indonesia in women by age is 14,896 or about 7% of the total cancer cases that occur, and ranks 3rd most gynaecological cancers after cervical cancer and breast cancer. And from the mortality rate, every year it is estimated that there are 7,842 women who die from ovarian CA, representing 4.34% of cancer deaths. (Gede et al., 2022).

Based on data from North Sumatra in 2021, Medan city has the highest number of cancer cases with 1,768 cases. Among them breast cancer with 824 cases, colorectal with 222 cases, cervical cancer 213 cases, thyroid with 145 cases, leukaemia 77 cases, prostate 67 cases, eyeball cancer 58 cases, lymph 58 cases, thalassemia 56 cases and ovarian cancer 48 cases. (West Sumatra Provincial Health Office, 2018).

Cancer mortality is higher in developing countries than in developed countries. This is due to a general lack of knowledge about the factors that cause cancer. In addition, the high mortality rate in developing countries is due to the lack of early detection of cancer (Agusweni, Dewi and E. Erwin, 2020). The high mortality rate is due to the lack of etiological evidence, and many patients are diagnosed at an advanced stage, because ovarian CA usually grows and spreads without specific symptoms, so the cancer is only diagnosed after reaching an advanced stage. For this reason, ovarian cancer is often called The Silent Killer. Ovarian cancer occurs at all ages, but the highest incidence occurs between the ages of 40 - 65 years. (Agusweni, Dewi and E. Erwin, 2020).

Based on the results of research conducted by Nurlailiyani, it is stated that there is a relationship between age and ovarian cancer, with a total incidence of 82 ovarian CA patients with a percentage at the age of 50 years of 48, 8%. Based on a population study conducted in Denmark on 885 women with a diagnosis of Ovarian Serous Borderline Tumour (OSBT) with the results that there is an association between parity and the incidence of ovarian serous borderline tumours (Rasmussen et.al., 2017).

Other factors that can increase the risk of ovarian CA at H. Adam Malik Hospital, the highest incidence rate was found to be experienced by the menarche age group of 12-14 years, namely 176 people with a percentage of 52.2%. In addition, ovarian cancer is also at high risk in women who have a family history of cancer, and also the use of contraceptives for a long time. (Brier and lia dwi jayanti, 2020). To treat ovarian cancer, health workers will conduct a physical examination, especially of the pelvic area and genital organs. Then for women suspected of ovarian cancer, further examinations will be carried out such as blood tests, ultrasound, and biopsy. Furthermore, prevention of CA Ovarium can be done with education and health promotion related to ovarian cancer.

Based on survey data at H. Adam Malik Hospital, there were 133 people affected by ovarian CA who were hospitalised and 237 people who underwent outpatient treatment. The data was obtained from the medical records of H. Adama Malik Hospital.

MATERIALS AND METHODS

The method used in this study is a quantitative method with a cross sectional approach in which data concerning the independent variable or risk and the dependent variable or effect variable, will be collected at the same time. With the aim of analysing the relationship that affects the incidence of ovarian cancer in women of childbearing age at H. Adam Malik Hospital in 2023.

Sampling technique is a sampling technique to determine the sample to be used in research. In this study using simple random sampling a sample is taken each research unit from the population has the same opportunity to be selected as a sample.

In this study the number of samples used was 79 women of childbearing age from a population of 370 women of childbearing age. The type of data used in this study is secondary data. Data collection is a data source that does not directly provide data to data collectors. To obtain secondary data in this study obtained from Medical Record data of female patients of childbearing age at H. Adam Malik Hospital Medan City for the past 1 year.

Univariate analysis was used to obtain an overview of the frequency distribution or the magnitude of the proportion based on the variables studied. Bivariate analysis was used to determine the relationship between the independent variable and the dependent variable. This analysis was carried out using the chi-square statistical test with a degree of confidence of 90% and a significance level of 10%.

RESULTS

From the results of research conducted by the author entitled "The Relationship between Age and Parity with the Incidence of Ovarian Cancer in Women of Fertile Age at H. Adam Malik Hospital in 2023", the following research results were obtained: The results of the analysis can be seen in table 1 below.

Univariate Analysis
Frequency Distribution of WUS at H. Adam Malik Hospital
Year 2023

WUS	N	%
Ovarian Ca	51	64,6
No Ovarian Ca	28	35,4
Total	79	100

Based on table 4.1, it can be seen that most of the respondents were 51 (64.6%) and 28 respondents (35.4%) did not have ovarian Ca.

Table 4.2 Frequency Distribution of Age

Age	N	%
At risk	52	65,8
Not At risk	27	34,2
Total	79	100

Based on table 4.2, it can be seen that most respondents in the age category were at risk as many as 52 (65.8%) and not at risk as many as 27 respondents (34.2%).

Table 4.3 Parity Frequency Distribution

Parity	N	%
At risk	46	58,2
Not At risk	33	41,8
Total	79	100

Based on table 4.3, it can be seen that most of the respondents in the at-risk parity category were 46 (58.8%), while mothers with non-risk parity were 33 respondents (41.8%), mothers with multiparity were 25 respondents (31.6%), and mothers with grandemultiparity were 8 respondents (10.1%).

Bivariate Analysis
Frequency Distribution of Age Relationship Analysis with the Incidence of Ovarian Ca at H. Adam Malik Hospital in 2023

Table 4.4 Analysis of the Relationship between Age and Ovarian Ca Incidence

Age	Ovarian Ca		No Ovarian Ca		P Value
	N	%	N	%	
At risk	40	78,4	12	42,9	0,003
Not At risk	11	21,6	16	57,1	

Based on the frequency of mothers whose age is at risk of ovarian ca as many as 40 respondents (78.4%), then in mothers with age who are not at risk as many as 11 respondents (21.6%). Then in mothers with no ca ovarian age at risk as many as 12 respondents (42.9%) and in mothers with age who are not at risk as many as 16 respondents (57.1%). Chi Square test results obtained p value 0.003 this indicates a significant relationship with age on the incidence of ca ovarium at H.A dam Malik Hospital in 2023.

Table 4.5 Analysis of the Relationship between Parity and the Incidence of Ovarian Ca

Parity	Ovarian Ca		No Ovarian Ca		P Value
	N	%	N	%	
At risk	27	52,9	15	41,1	0,124
Not At risk	9	32,1	19	67,9	

Based on the frequency of mothers whose age is at risk of ovarian ca as many as 27 respondents (52.9%), then in mothers with age who are not at risk as many as 9 respondents (32.1%). Then in mothers with no ovarian ca parity at risk as many as 15 respondents (41.1%) and in mothers with parity who are not at risk as many as 19 respondents (67.9%). Chi Square test results obtained p value 0.124 this indicates there is no significant relationship with parity on the incidence of ovarian ca at H. Adam Malik Hospital in 2023.

DISCUSSION

Relationship between Age and Ovarian Cancer

Based on the frequency of mothers whose age is at risk of ovarian ca as many as 40 respondents (78.4%), then in mothers with age who are not at risk as many as 11 respondents (21.6%). Then in mothers with no ovarian ca the age at risk was 12 respondents (42.9%) and in mothers with age that was not at risk was 16 respondents (57.1%). The results of the Chi Square test obtained a p value of 0.003, this indicates a

significant relationship with age at the incidence of ovarian cancer at the Adam Malik Hajj Hospital in 2023.

This is in line with research conducted by (Heddy, Jamilah and Zulhijjah, 2023) in the results of research conducted using statistical tests obtained a p value = 0.004 <0.005, then H_a is accepted and H_o is rejected, so it can be concluded that there is a relationship between age and the incidence of ovarian cancer. Ovarian cancer is very common and can affect women of all ages. The age that is more at risk of developing ovarian cancer is in women of childbearing age, because this cancer develops during ovulation without signs and symptoms.

Age is the length of a person's life in years calculated from birth (KBBI 2022). Age is one of the factors for ovarian cancer. The age of women with good reproductive health is not less than 20 years and not more than 35 years (Juliana Munthe, 2022). The older a person is, the higher the risk of a woman suffering from ovarian cancer. This happens because a person's immune system will continue to decline along with increasing age and cell degeneration in the body where the cell cannot be repaired, so it continues to accumulate which eventually triggers ovarian cancer in women (Cancer Society, 2022).

Ovarian cancer is most common in women aged >50 years. The older women are diagnosed with ovarian cancer, the higher the number of new cases found and the smaller the life expectancy of women diagnosed with ovarian cancer. Ovarian cancer continues to increase as people age. This is due to degenerative factors, which is a condition that causes a decrease in a person's body function that occurs at the age of >45 years. Age > 60 years is one of the peak mortality factors in ovarian cancer patients (Momenimovahed et al., 2019).

Relationship between parity and ovarian cancer

Based on the frequency of mothers whose age is at risk of ovarian ca as many as 27 respondents (52.9%), then in mothers with age who are not at risk as many as 9 respondents (32.1%). Then in mothers with no ovarian ca parity at risk as many as 15 respondents (41.1%) and in mothers with parity who are not at risk as many as 19 respondents (67.9%). The results of the Chi Square test obtained a p value of 0.124, this indicates that there is no significant relationship with parity on the incidence of ovarian ca at the Adam Malik Hajj Hospital in 2023.

In this case it is in line with research conducted by (Harun et al., 2021) the results of the chi square test obtained a value of $p = 0.355$ ($p < 0.05$) which means there is no significant relationship between parity and ovarian cancer. This research is also in line with research (Simamora, Hanriko and Sari, 2017) obtained the results of the Chi Square Test with a p value of 0.697 (< 0.05). So it can be concluded that there is no significant relationship between parity and ovarian cancer. Parity is thought to have an effect on reducing the risk of ovarian cancer. This is in accordance with research conducted by Prat et al and Riman et al can show that primipara reduces the risk of ovarian cancer compared to subsequent births, but other studies show that the risk of ovarian cancer decreases after the birth of the second child. Women who have children have a 29% lower risk factor for ovarian cancer than nulliparous women. Nulliparous women have more ovulation cycles than multiparous women, so the risk of ovarian cancer in nulliparous women is higher.

Ovarian cancer cases with a high number of parities are still a high potential in women of childbearing age. Based on the Minister of Health Regulation No. 29 of 2017 concerning Breast Cancer and Uterine Cancer Management states that midwives must

refer clients who experience certain conditions, one of which is gynaecological conditions such as ovarian cancer. (Ministry of Health, 2017) Based on the Ministry of Health No. 320 of 2020 the competence of midwives is to provide education about screening for deviations in women's reproductive health, has a level that is third under supervision, so this management is important for midwives to master.

In a study conducted (Harun et al., 2021) , the prevalence of the number of live births (parity) said that the number of parities that gave birth 1 to 2 times could reduce the incidence of ovarian cancer. So that mothers are encouraged to have 2 children. And for mothers who are afraid of having unwanted pregnancies, mothers are advised to use oral contraceptives. Because oral contraceptives have lower risk factors compared to mothers who do not use contraception. So researchers can conclude parity is not one of the factors associated with the incidence of ovarian cancer. This is adjusted to several studies and theories reviewed by researchers. Parity or the number of births that occur as much as > 2 times a delivery can reduce the incidence of ovarian cancer. In mothers with nulliparous and primiparous can be at risk of ovarian cancer, this is due to during pregnancy, ovulation disorders occur that suppress the secretion of gonadotropin hormones, and it is suspected that repeated ovulation and gonadotropin hormones occur. Women who have given birth have a 30%-60% lower risk than women who have not given birth. This reduces the risk of ovarian cancer in pregnant women (Simamora, Hanriko and Sari, 2018).

CONCLUSION

Based on the results of research and discussion, the authors conclude:

1. There is a significant relationship between age and the incidence of ovarian cancer in women of childbearing age at H. Adam Malik Hospital in 2023 with a p value of 0.003 (p value <0.05).
2. There is no significant relationship between parity and the incidence of ovarian cancer in women of childbearing age at H. Adam Malik Hospital in 2023 due to a p value of 0.124 (p value > 0.05).
3. There is a significant relationship between the independent variable and the dependent variable. The risk factor affecting the incidence of ovarian cancer in women of childbearing age is Age at H. Adam Malik Hospital in 2023.

REFERENCES

- Agusweni, T., Dewi, Y.I. and Erwin (2020) 'GAMBARAN FAKTOR RISIKO INSIDEN KANKER OVARIUM DI RSUD ARIFIN ACHMAD PROVINSI RIAU', 11(1).
Dinas Kesehatan Provinsi Sumatera Barat (2018) 'Profil Kesehatan Provinsi Sumatera Barat 2017'.
Gede, P. *et al.* (2022) 'Prominentia Medical Journal', *PMJ Prominentia Medical Journal*, 3(1), p. 2022.
Harun, E. *et al.* (2021) 'FAKTOR RISIKO KANKER OVARIUM JENIS EPITELIAL DI RSUD PROF . DR . W . Z JOHANNES KOTA KUPANG NUSA TENGGARA TIMUR TAHUN 2016-2019', (November).
Juliana Munthe, D. (no date) *Asuhan Kebidanan Berkesinambungan continuity of care*. 2nd edn. Jakarta: CV Trans Info Media.
Simamora, R.P.A., Hanriko, R. and Sari, R.D.P. (2017) 'Hubungan Usia , Jumlah Paritas , dan Usia Menarche Terhadap Derajat Histopatologi Kanker Ovarium di RSUD Dr . H . Abdul Moeloek The Relationship of Age , Parity , and Age at

Menarche to the Grading of Ovarian Cancer Histopathology at RSUD Dr . H .
Abdul M', 7(14), pp. 7–13.

WHO (2018) *WHO. Global Cancer observatory.*

Heddy, Jamilah, N. and Zuhijjah, A. (2023) 'FAKTOR – FAKTOR YANG
BERHUBUNGAN DENGAN KEJADIAN KISTA OVARIUM PADA WANITA USIA
SUBUR DI POLI BKIA RUMAH SAKIT KENCANA KOTA SERANG', *Ilmiah Ilmu
Kebidanan Dan Kandungan* [Preprint].