



The risk factor of age in ovarian cyst

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ABSTRACT

It is very important for women of childbearing age to pay attention to reproductive health, because the fertility of a woman's reproductive organs is often associated with various diseases, including ovarian cysts. This study aims to determine the relationship between age and ovarian cysts. This type of research is an observational study with a cross sectional approach. The sample consisted of 115 respondents selected by total sampling. The research was conducted in July 2019 with a research duration of 7 days by collecting data directly from the register book from 2016 to 2018. The data was analyzed using the chi-square test to determine the relationship between age and the incidence of ovarian cysts. The results showed that the majority of respondents aged 20-50 years (at risk) who had ovarian cysts were 102 people (88.7%) and a small number of respondents aged <20 years and >50 years (not at risk) did not have ovarian cysts as many as 13 people (11.3%), with a statistically significant p -value = 0.002 < 0.05. Conclusion: most of the respondents who were diagnosed with ovarian cysts were respondents aged 20-50 years (at risk). It is hoped that health workers, especially midwives, can increase the provision of information to the public, especially mothers, about the importance of a healthy lifestyle and early detection of ovarian cysts.

Keywords: Ovarian Cyst, Reproductive System, Age

INTRODUCTION

The ovaries are a pair of small walnut-like organs which are white in color, have a solid consistency, with a size of 3 cm x 2 cm x 1 cm and weigh 5-8 grams. Egg cells and female hormones (estrogen and progesterone) are produced by the ovaries. The ovaries have an important role in the female reproductive system. The reproductive system plays a very important role in human life (Soom, Istiqamah, & Husnah, 2021; Sulistiyah & Keswara, 2023; Wahyuni, M, & Hamang, 2021). One of the diseases related to the female reproductive system is ovarian cysts. Ovarian cysts are one of the most common gynecological benign tumors (filled with fluid that grows on the ovaries) found in women during their reproductive years (Herawati, Kusumawati, & Hidayat, 2019; Sinaga, Ulfah, & Dewi, 2021). Ovarian cysts are generally asymptomatic (without symptoms), but can cause complaints if metastases have occurred, so that 60-70% of patients come at an advanced stage (Hasnah, Muthahharah, Roswati, & Gani, 2022; Lupean et al., 2020; WHO, 2020). Age is a factor that influences the incidence of ovarian cysts (Arinda, Anggraini, & Noor, 2022). Ovarian cysts often occur in women of reproductive age (20-50 years) (Ratih, Suwartono, & Sabir, 2022).

Based on the retrieval of researcher data from the register records of RSUD DR. M.M Dunda Limboto, Gorontalo Regency, obtained that data from 2016 to 2018 patients diagnosed with ovarian cysts were 115 patients aged 16-60 years. The number of occurrences of ovarian cysts is increasing every year, thus increasing the morbidity rate of more than 80%.

Women can develop ovarian cysts at any age. Changes in ovarian function can affect hormones in a woman's body such as the female reproductive organs (Olii, Yanti, Salman, & Nurhidayah, 2022; Purnamasari & Nurhidayah, 2023; Rasyid, Sujawati, & Biki, 2021; Ulfah, Iswandari, & Anisa, 2023).

The course of the disease is asymptomatic, so most women are not aware that they have ovarian cysts. Woman wakes up after a lump is felt from the outside. Therefore, researchers are interested in analyzing the relationship between age and the incidence of ovarian cysts at RSUD.DR. M.M Dunda Limboto.

METHOD

This type of research was an observational study with a cross-sectional approach for 7 days in July 2019. The population of this study were all women diagnosed with ovarian cysts at RSUD.DR. M.M. Dunda Limboto totaled 115 people from 2016 to 2018. The sample in this study were all

women diagnosed with ovarian cysts totaling 115 people with the sampling technique used, namely total sampling. Data collection used a checklist sheet whose results were analyzed univariately

and bivariately with the chi-square test (X²) which was performed using the SPSS 16.0 computerized program.

RESULTS AND DISCUSSION

Results

Table 1. Age Percentage of Respondents Diagnosed with Ovarian Cysts at RSUD DR. M.M Dunda Limboto

Age	(n)	(%)
20-50 years	104	90,4
<20 years and >50 years	11	9,6
Total	115	100

Source: Primary Data, 2019

Table 1 shows that most of the ages of women diagnosed with ovarian cysts are aged (20-50 years), namely 104 respondents (90,4%).

Table 2. Relationship Between Age and The Incidence of Ovarian Cysts in Hospitals DR. M.M. Dunda Limboto

Age	Ovarian Cysts				Total		P Value
	At risk >4cm		No risk <4cm		n	%	
	n	%	n	%			
20-50 years	47	40,9	55	47,8	102	88,7	0,002
<20 years and >50	12	10,2	1	9	13	11,3	
Total	59	51,3	66	48,7	115	100	

Source: Primary Data, 2019

Table 2 shows that of the 115 female respondents aged 20-50 years who had ovarian cysts, 102 respondents (88.7%) and those aged <20 years and >50 years

did not experience ovarian cysts, 13 respondents (11.3%) . The statistical test results showed significant results with a p-value of 0.002 (p <0.05).

Discussion

Based on the results of Table 2 shows the results of a p-value of 0.002 which indicates that there is a relationship between age and the incidence of ovarian cysts. This is in accordance with research

which states that there is a significant relationship between age and the incidence of ovarian cysts. The study showed that the majority of ovarian cyst patients were found at the age of 36-50 years (37.3%). This is also similar to a study conducted by Apriani et al, in 2016 on ovarian cyst

patients. The study found that the most common age of ovarian cyst patients was at the age of 30-34 years (19.9%) and if accumulated, ovarian cyst patients in the age range of 36-50 years were 56.3%, 20-35 years (38.1%) and <20 years (5.6%) (Dewi, Wijaya, Darmayasa, & Putra, 2022).

This is in line with research which states that the highest frequency of risk factors for ovarian cysts is in women aged 20-45 years (Fatkhiyah, 2019). Generally, ovarian cysts occur in productive age and are relatively rare in post-menopausal women. There is no specific age range for the occurrence of ovarian cysts. However, most based on data (Ministry of Health, 2015) ovarian cysts are most often found in women aged between 20-50 years. One of the causes is a disturbance in the formation of hormones in the hypothalamus, pituitary, or the ovary itself. Ovarian cysts arise from follicles that don't function during the menstrual cycle (Hara et al., 2021; Kiemtoré et al., 2019; Tidore & Rahakbauw, 2022).

Ovarian cysts are a common finding in women of the reproductive age group (Oliveira e Souza, Innecco Arêas, Rezendeista Campos, Innecco Arêas, & Martins Resende, 2021; Tresa et al., 2021). Ovarian cysts are detected through ultrasound examination. Cysts may disappear spontaneously during the

treatment period, but may recur (Abrahamsson et al., 2020). If not handled properly, there is a risk of malignancy (Cheng, 2021; Seguin et al., 2021).

According to the assumptions of researchers, the age of the mother and the incidence of ovarian cysts really have a relationship, according to the explanation above, if the mother's age is <20 and >50, she can get ovarian cysts, at a young age she can also get ovarian cysts if her menstrual cycle is irregular, and cysts. These ovaries can also cause low birth weight babies.

Ovarian cysts are very common and can affect women of all ages. Often cysts appear and disappear without the woman realizing she has them (Heddy, Jamilah, & Zulhijjah, 2023). Ovarian cysts are a dangerous disease for women, especially in Indonesia because they have a high mortality rate. Many women realize too late that they have ovarian cysts, and the prevention and treatment they have taken so far has led to late-stage and malignant cystic cancer (Puteri & Rachman, 1978).

Cysts usually occur in women of childbearing age or childbearing age (Sulistiyah & Keswara, 2023). Menstruation marks the start of a new cycle for a woman. The menstrual cycle is the time interval from the start of the last menstruation to the start of the next menstruation. Cysts themselves can form

depending on the length of the menstrual period. In this case, it occurs due to changes in hormone levels during the menstrual cycle (Kau, Adam, Djafar, Borolla, & Dengo, 2023).

Ovarian cysts are fluid-filled lumps that can grow on the ovaries and are caused by changes in hormone levels during menstruation (Kau et al., 2023). Ovarian cysts are large, round, fluid-filled tumors that form on the ovaries. These cysts are also known as functional cysts because they form during the normal menstrual cycle or after ovulation during ovulation. Malignant ovarian cysts are also known as ovarian cancer (Sulistiyah & Keswara, 2023).

Ovarian cysts are a condition characterized by the presence of a fluid-filled sac-shaped cavity in the ovarian tissue. In most cases, ovarian cysts can develop in women during the reproductive/fertile period. Most ovarian cysts occur due to changes in hormone levels during menstruation and the production and release of egg cells from the ovaries (Fathimatuzzahroo, 2023).

Ovarian cysts are abnormal tissue growths in the form of water-filled sacs around the ovaries. Ovarian cysts require a thorough diagnosis based on medical history, physical examination, and supporting research, including radiation therapy based on ultrasound, CT scan, and MRI.

Treatment of ovarian cysts involves continued observation and surgery depending on the patient's condition once the diagnosis is confirmed (Suryoadji, Ridwan, Fauzi, & Kusuma, 2022).

Risk factors for ovarian cysts include patients undergoing gonadotropin therapy or other stimulant medications, such as for the treatment of infertility, which can cause hyperstimulation syndrome. Other medical conditions such as taking tamoxifen, pregnancy, hypothyroidism, smoking, and tubal ligation are also risk factors for ovarian cysts (Suryoadji et al., 2022).

Ovarian cysts are often caused by problems with hormone formation in the hypothalamus, pituitary gland and several factors, including:

1. Internal factors
 - a. Genetic factors. In the human body there are genes that can trigger the emergence of cancer or tumors, these genes are called protooncogenes. Protooncogenes can be caused by regular consumption of unhealthy or carcinogenic foods, exposure to pollution, and exposure to radiation.
 - b. Hormonal disorders. Women with estrogen hormone balance problems can develop cysts.

- c. History of colon cancer. Women with a history of colon cancer are also at risk of developing ovarian cysts because colon cancer itself can spread to other organs in the body.
2. External factors
 - a. Rarely exercise. Physical activity plays a role in maintaining human fitness and health. If you rarely exercise, body fat will accumulate. If fat accumulates it can make the blood circulation system less smooth.
 - b. Smoking and drinking alcohol. Smoking and drinking alcohol are unhealthy lifestyles. An unhealthy lifestyle can be the cause of several health disorders/diseases such as cancer, reproductive disorders and other health problems
 - c. Eating foods high in fat. Regular consumption of foods high in fat can block blood circulation, if not balanced with exercise, dangerous substances can accumulate in the body.
 - d. Low socioeconomic life. Low socioeconomic life is also a factor that can cause cysts, although people with high socioeconomic lives can also cause cysts. However, low and high socioeconomic levels, if not

balanced by maintaining a healthy lifestyle, can cause cystic fibrosis.

- e. Stress. Stress is one of the factors causing the appearance of cysts. Most people who suffer from stress actually adopt unhealthy lifestyles, such as smoking, drugs, drinking alcohol, eating lots of fast food, etc (Fathimatuzzahroo, 2023).

Ovarian cysts are divided into two groups. Non-neoplastic ovarian cysts and neoplastic cysts. Non-neoplastic cysts are usually benign and shrink or disappear on their own after 2 to 3 months. Meanwhile, neoplastic cysts are generally malignant and require surgery (Sulistiyah & Keswara, 2023; Widyarni, 2020).

Malignant ovarian cysts are usually detected before menstruation, cysts are more common in people over 45 years of age. Ovarian cysts are caused by hormonal abnormalities (development) of the hypothalamus, pituitary gland and ovaries. The risk of ovarian cysts increases with an unhealthy lifestyle such as consuming foods low in fat and fiber, the presence of additives, lack of activity, smoking, drug and alcohol use. It can also be caused by exposure to pollutants and infectious agents, chronic stress, and pollution. Several factors that cause ovarian cysts are an unhealthy lifestyle, such as not being active enough and not consuming enough healthy food. Even though ovarian cysts

are benign tumors, there is a possibility that they can become malignant or cancerous (Sulistiyah & Keswara, 2023).

This is in line with research (Suryoadji et al., 2022) which states that there are two classifications of ovarian cysts and each has its own pathophysiology. The classification is neoplastic cysts and functional ovarian cysts. Functional ovarian cysts consist of follicular cysts and corpus luteum cysts which develop due to disruption of the normal ovulatory cycle.

Follicular cysts develop from unruptured follicles during ovulation, especially in the follicular phase. Too much FSH or too little LH during the LH peak period can prevent the release of an egg during ovulation. Meanwhile, in corpus luteum cysts, no damage occurs to the corpus luteum. There are two types of lutein cysts: granulosa cysts and sheath cysts. Granulosa cysts are non-neoplastic ovarian enlargements resulting from luteinization of the granulosa cell walls after ovulation. After ovulation, a hemorrhagic body forms in its center due to the formation of new blood vessels and accumulation of blood. Reabsorption of blood in this space results in the formation of a corpus luteal cyst. On the other hand, the exact mechanism of sheath cyst formation has not been elucidated. Sheath cysts are commonly seen in PCOS, hydatidiform mole, and choriocarcinoma (Suryoadji et al., 2022).

Neoplastic cysts are caused by abnormal growth in the ovarian area. These growths may be malignant or benign. There are different types of benign cysts, including serous costadenoma, dermoid cyst, and mucinous cyst (Suryoadji et al., 2022).

Ovarian cysts cause pain, bleeding, infection, and even death. Vaginal bleeding is one of the symptoms and signs of ovarian cancer, especially after menopause. Symptoms include pelvic or lower abdominal pain, back pain, an enlarged stomach characterized by bloating, and changes in habits such as frequent urination or constipation (Kau et al., 2023).

According to (Fathimatuazzahroo, 2023), common symptoms in ovarian cyst sufferers are:

1. Complaints of feeling full and bloated
2. Difficulty urinating
3. Irregular menstruation
4. Pelvic pain is continuous or sometimes recurrent and spreads to the lower pelvis and thighs
5. Feeling like vomiting
6. Pain during intercourse
7. Breast movement is similar to pregnancy.

Ovarian cysts are also usually discovered incidentally during routine check-ups or other gynecological examinations. It is caused by ovarian cysts, which may have no symptoms, especially if they are small.

Large ovarian cysts can generally cause symptoms such as flatulence, rapid bloating, urgency and pain. In the case of malignant ovarian cysts, symptoms may be more variable both around the abdomen and up to the breast, due to the possibility of metastasis. Symptoms that can occur in malignant ovarian cysts include fatigue, weight loss, pain in the affected area (abdominal or chest pain), and difficulty breathing. Because benign ovarian cysts generally do not show symptoms, an appropriate clinical approach is needed to treat patient complaints (Suryoadji et al., 2022).

If an ovarian cyst is suspected or a mass is detected, a physical examination should be continued. In this case, the physical examination may include a TTV, abdominal examination, and pelvic examination. If the cyst enlarges, a mass or lump may be palpable during abdominal examination. Tumor description includes location, size, borders, density, mobility, and presence or absence of pain. Pelvic examination, inspection, VT or RT is performed to measure masses in the adnexal area (Suryoadji et al., 2022).

Treatment options for ovarian cysts range from close monitoring to removal of the cyst, such as laparoscopy or laparotomy. Treatment is determined based on the size of the cyst, the degree of malignancy and the symptoms it causes. Surgical treatment

can be carried out using two methods, namely minimally invasive methods such as laparoscopy and open surgery such as laparotomy. Small and benign cysts can be treated with laparoscopic cystectomy and oophorectomy. However, if the cyst is large, laparoscopic removal is not recommended because it inhibits instrument mobility and is not suitable for removal. Therefore, these large cysts can be removed by laparotomy. Apart from observation and surgery, combined contraceptive pills are also given. However, there is no research strong enough to support the effectiveness of this combined oral contraceptive pill (Suryoadji et al., 2022).

Given the impact that occurs as a result of ovarian cysts, namely suspicion of ovarian malignancy, so to prevent the incidence of ovarian cysts from increasing in the future, the role of midwives is needed, namely providing information about ovarian cysts, either directly, namely through counseling, or indirectly, namely through Print media or electronic media are thus expected to provide insight and understanding to the public, especially mothers, so that mothers understand ovarian cysts and take better care of their health by getting enough rest, good nutrition, diligent health control at hospitals or health centers as early detection of ovarian cysts.

CONCLUSION

In this study, there was a relationship between age and the incidence of ovarian cysts. This can be seen in the statistical test results which are significant with a p-value of 0.002 (< 0.05). It is hoped that the results of this research can be used as information in improving health service

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programs through health promotion regarding the prevention of ovarian cysts, so that all women can better maintain their reproductive health and carry out regular health checks at the nearest health facility to detect early various kinds of reproductive health problems, especially cysts ovaries.

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