



## The Effect of Using Hormonal Contraception on the Incidence of Breast Cancer

Yermi <sup>1</sup>, Adriyani Adam <sup>2</sup>, Eka Sarofah Ningsih <sup>3</sup>, Restu Iriani <sup>4</sup>, Sara Surya <sup>5</sup>, Siti Rukayah <sup>6</sup>

<sup>1</sup> Public Health Study Program, UPRI Makassar, Indonesia

<sup>2</sup> Nutrition Study Program, Poltekkes Kemenkes Makassar, Indonesia

<sup>3</sup> Kebidanan Study Program, University Islam Lamongan, Indonesia

<sup>4</sup> Nursing Study Program, AKPER Berkala Widya Husada, Indonesia

<sup>5</sup> Pharmacy Study Program, Universitas Dharma Andalas, Indonesia

<sup>6</sup> Nursing Study Program, STIKES Persada Husada, Indonesia

### Abstract

Cancer is a cell that has lost its normal control and mechanism, resulting in irregular growth. Cancer can occur from various tissues in various organs in line with the growth and development of cancer cells - cancer cells form a mass of malignant tissue that infiltrates nearby tissues and can spread (metastasis) throughout the body. The purpose of this study was to determine the effect of hormonal contraceptive use on the incidence of breast cancer in patients at Dr. Wahidin Sudirohusodo Ujung Pandang Hospital Makassar. This research method is observational research with case control study design. Where case control is an analytic study that concerns how risk factors are studied using a retrospective approach. The results obtained Odds ratio value = 0.75. In addition, it was also obtained a lower limit value of 0.36% and an upper limit value of 1.38 at a 95% confidence level (95% CI). Conclusion that the use of hormonal contraceptive is not an influence on the incidence of breast cancer (large OR: 0.42 with a lower limit value of 0.17 and an Upper limit value of 2.50) is a protective factor for the incidence of breast cancer.

**Keywords:** Effect of Use, Hormonal Contraceptives. Incidence, Breast Cancer

Corresponding Author: Yermi

Email: [yermi@fkmupri.ac.id](mailto:yermi@fkmupri.ac.id)





## 1. Introduction

Breast cancer is a malignant tumor that grows inside the breast tissue, cancer can begin to grow in the mammary glands, milk ducts, fatty tissue and connective tissue in the breast. Breast cancer is included in the International Classification of diseases (ICD) by the World Health Organization (WHO).

Breast cancer is a very frightening disease for women. Breast cancer is a killer disease and its cells grow rapidly without a specific purpose and damage related organs and make children spread in other organs (Drajat, 2003). Breast cancer is a problem that is most often discussed today because of the high number of these cases in the world where breast cancer is the most common type of cancer found in women, around 30 percent. Cancer in women is breast cancer. (Winner in Haryasena. 2003).

The cause of breast cancer is still unknown. However, it is suspected that the main factor is the hormonal factor of estrogen or the imbalance of estrogen and progesterone hormones. Because the etiology of breast cancer is multifactorial, absolute prevention is not possible. From other predisposing factors and risk factors, hormonal cycle regulation can be attempted, as well as avoiding or improving menu composition such as being low in vegetable fats, consumption of vegetables and fruits as a source of anti-oxidation (Gilang, 2003).

Given the incidence of breast cancer moves up steadily since the age of 30 years where at the age of often careless in consuming food (containing preservatives or fatty) and the age of 30 years at that time the average woman experiences hormonal increases (Sutjipto, 2006).

Hormones are substances produced by the body's glands whose function is to regulate the activities of certain body organs and membranes. In some studies it is known that excessive administration of certain hormones can cause an increase in the occurrence of several types of cancer including breast cancer.

## 2. Research Method

This study is an observational study with a case control study design. Where case control is an analytical study that concerns how risk factors are studied using a retrospective approach, namely studying the relationship between exposure and disease by comparing case and control groups based on an exposure. The case group is selected based on the status experienced, while the control group is selected from the same or different population as the case group, but has similar subject characteristics with the case group.





### 3. Results And Discussions

#### a. Result

The study sample size was obtained from the Lemeshow table as many as 140 den responses, namely 70 case control samples, after checking the data it turned out that all were eligible for analysis.

Odds ratio statistical test is intended to see how much influence the independent variables, namely the use of hormonal contraceptives, the type of hormonal contraceptives and the duration of hormonal contraceptive use on the dependent variable, namely breast cancer. The odds ratio test results obtained by hormonal contraception.

#### 1. Use of hormonal contraception.

Table 1  
Effect of Hormonal Contraceptive Use on Breast Cancer Incidence at  
Dr. Wahidin Sudirohusodo Hospital Makassar

Use of Hormonal Contraceptives	Case	Control	OR	95% C1
Use	31	36	0,75	Lower limit = 0,36
Not used	39	34		Upper limit = 1,36
Total	70	70		

Based on the data in table 1, after analysis, the Odds ratio value = 0.75 was obtained. In addition, a lower limit value of 0.36% and an upper limit value of 1.38 were obtained at the 95% confidence level (95% C1).

Interpretation:

Women who use hormonal contraceptives are 0.75 times more likely to suffer from breast cancer than those who do not use hormonal contraceptives. This means that the use of hormonal contraceptives is a protective factor against the incidence of breast cancer.

#### 2. Types of Hormonal Contraceptives

Table 2





Effect of Using Hormonal Contraceptives on the Incidence of Breast Cancer at Dr.  
Wahidin Sudirohusodo General Hospital Makassar

Types of Hormonal Contraceptives	Case	Control	OR	95% C1
Pills	21	23	1,18	Lower limit = 0,52
Injections	10	13		Upper limit = 3,18
Jumlah	31	36		

Based on the data in table 2, after analysis, the Odds ratio value = 1.18 was obtained. In addition, a lower limit value of 0.52 and an upper limit value of 3.18 were obtained at the 95% confidence level (95% C1).

Interpretation:

Women who use contraceptive pills are 1.18 more likely to suffer from breast cancer than those who use injectable contraceptives and injectables. This means that there is no relationship between the use of contraceptive pills and the incidence of breast cancer.

Therefore, between the lower and upper limit values (0.52-3.18) include the value of 1, the odds ratio value is said to be not meaningful and the alternative hypothesis of the study is rejected. This means that the use of contraceptive pills has no effect on the incidence of breast cancer.

b. Discussion

From the results of the odds ratio statistical test on the independent variables, namely the use of hormonal contraception, the type of hormonal contraception, the length of use of hormonal contraception, then the test results are analyzed in the discussion as follows.

1) Hormonal Contraceptive Usage

One of the influences on the occurrence of breast cancer is the use of hormonal contraceptives, this is due to the contraceptive hormone estrogen contained in contraceptives. In addition, the estrogen hormone is also synthesized in the ovaries. Excess of this hormone will spur the formation of prolactin, which also stimulates the formation of breast cancer.

Based on the results of the odds ratio test on 70 cases and 70 controls, OR : 0.75 which means that the effect of using hormonal contraceptives is 0.75 times





compared to those who do not use hormonal contraceptives. This means that the use of hormonal contraceptives is a protective factor against the occurrence of breast cancer. This study is in line with research by the Center for disease Control and Prevention (CDC) New York chaired by Polly A. Marchbanks (2002). This study has interviewed 4,575 women diagnosed with breast cancer and 4,682 women who have never suffered from the disease, the results of which state that the use of hormonal contraceptives does not increase the risk of breast cancer.

## 2) Types of Hormonal Contraceptives

Of the several types of contraceptives, there are 3 types of contraceptives that contain hormones, namely pills, injections and injections. In some studies, it is stated that there is an association between the use of contraception and the incidence of breast cancer.

In the study, the analysis was carried out by comparing hormonal contraceptives with one another.

Table 2 shows the proportion who used contraceptive pills showed a percentage of 47.7% in the case group while those who used injections and implants had a percentage of 43.4%. In the control group, the use of contraceptive pills was 52.3% and 56.6% used injections and implants.

The results of inferential research that women who use oral contraceptives have an influence of suffering from breast cancer by 1.18 times compared to those who use injectable contraceptives and implants. However, when viewed from the Lower value of 0.52 and the Upper value of 3.18 then it is not an effect of contraceptive use.

Table 2 shows that the use of injectable contraceptives in the case group was 50% and control was 50%, while the combination of contraceptive pills and implants was 45.1% and control was 54.9%. This shows that injectable contraceptives have a mean effect of suffering from breast cancer by 1.21 compared to those who use pills and implants. By looking at the Lower value of and the Upper value of 3.98, it is not an effect of contraceptive use. This is in line with research published in The New England Journal Of Medicine in 2002 which proved that pill users did not increase their risk of developing breast cancer.

## 4. Conclusion

Based on the results of the odds ratio statistical test regarding the influence of breast cancer incidence at Dr. Wahidin Sudirohusodo Makassar General Hospital, the following conclusions were drawn:





- 1) The use of hormonal contraception is not an influence on the incidence of breast cancer (large OR: 0.75 with a Lower limit value of 0.36 and an Upper limit value of 1.38) is a protective factor on the incidence of breast cancer.
  - a) The use of hormonal contraceptive pills is not an influence on the incidence of breast cancer (OR: 1.18 with a lower limit value of 0.52 and an upper limit value of 3.18), including the value of 1, the odds ratio value is not meaningful.
  - b) The use of injectable hormonal contraceptives is not an influence on the incidence of breast cancer (OR: 1.21 with a lower limit value of 0.52 and an upper limit value of 3.98) including a value of 1, the odds ratio value is not meaningful.
- 2) The use of hormonal contraceptives is not an influence on the incidence of breast cancer (large OR: 0.42 with a lower limit value of 0.17 and an Upper limit value of 2.50) is a protective factor for the incidence of breast cancer.

## 5. Compliance with ethical standards

### Acknowledgements

The research team would like to thank all those who have contributed to this research. Especially to the leadership of Dr. Wahidin Sudirohusodo Makassar Hospital for allowing and providing facilities and the leadership of the university in terms of providing support in the implementation of the Tridarma of Higher Education. Hopefully we can collaborate in development in the field of health for the benefit of society.

### Disclosure of conflict of interest

This research collaboration is a positive thing for all researchers so that conflicts, problems and others are absolutely no problem for all writers.

### Statement of informed consent

Every action we take as authors is a mutual agreement or consent.

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Publish : Association of Indonesian Teachers and Lecturers

## International Journal of Health Sciences (IJHS)

Journal Homepage : <https://jurnal.agdosi.com/index.php/IJHS/index>

Volume 1 | Number 2 | June 2023 |



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