# Study Prevalence of Breast Cancer and the Relation it's with Some Risk Factors and Blood Group in Al-Najaf Governorate, Iraq

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## Abstract

The current study was designed to determine the prevalence of breast cancer compared to other types of cancer patients who are admitted to the cancer tumors Center/Al Sadr Teaching Hospital in Najaf, For the period from February to Jun2017. The rate of breast cancer was 21.2 % (215) of the total number of infected people cancer (1015). this study showed the relation between the type of blood and the prevalence of infection, where the results were (36.3, 32.1, 22.3, 9.3%) by dependent the factions of blood (A, O, B,AB) respectively.

The incidence of infection in women who use oral contraceptives was (52.7) compared to those who did not use the pills (5.4). Obesity is also an important factor In the prevalence of infection, where the proportion of women in obese women (64.5) compared to non-obese (16.1). The study also showed that there was a relationship between the level of education and the prevalence of breast cancer, which was the highest rate of infection in uneducated women followed by the holders of primary, preparatory, diploma and the lowest percentage of the bachelor's degree, where the percentages were (36.3,28.8,15.8,11.6,7.4) % respectively.

*Keywords: cancer, contraceptives, blood group, Obesity*

## Introduction

The growth of normal cell usually results from a tight balance between growth stop signals and growth stimulation signals. Reproduction happens only when the cells number is increased. The balance is shifted to stimulate growth. This occurs during normal tissue change and during wound healing. Cells differentiate during this process and the reproduction stops. When needed. While in tumor cells there is a defect in this balance, which leads to the continued proliferation of cells and loss of differentiation. Cancer result from a genetic defect in the body cells that transforms it into cancerous cells that are out of control. They divide and grow at the wrong place and time, leading to the formation of tumors. In initiation phase of cancer occur mutation in DNA copy during the division of the cell. This mutation happens with effect many factors such as viruses infection, radiation, environmental factors, and smoking. when the mutation causes many mutations, the cell becomes more able to life and resistance of immune factors. after that, cancer speared to other tissues. Type of breast cancer is a solid carcinoma and diagnosed by clinical and postoperative classification It was very important to detect early breast cancer because the patient's survival rate for at least five years from the diagnosis of the disease decreases with the development of the disease

Most disease injured of human-associated with blood group, ABO blood groups are antigenic, polymorphic, found on the erythrocyte surface and some tissue or other cells.ABO discovered by Landsteiner in "1900". In 2015 find the blood types system are important in transfusion medicine. the blood groups are allied with many of diseases including vascular disease, diabetes type 2. so that the study objective to know the relationship between cancer and blood group also study effect some risk factors on the prevalence of disease.

## Materials and Procedure

### Samples:

Blood samples collection from women infected by breast cancer by finger prick method for diagnosis type of blood.

**Diagnosis Type of Blood:** Diagnosis of blood group directly by used blood group kit.

## Result and Discussion

Shows the percentage of breast cancer relative to the total number of the sample studied
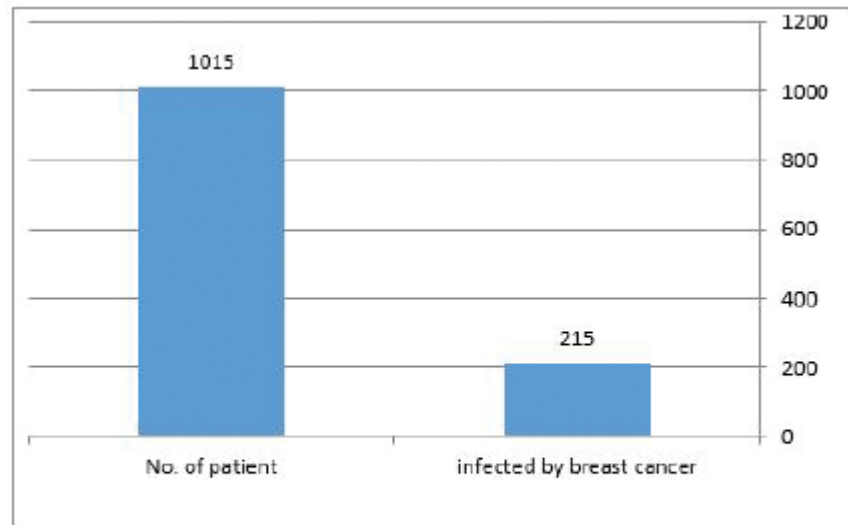


**Figure 1: Explain the number patient of infection by breast cancer for a total number of cancer patients**

The results showed that the rate of breast cancer reached about 21.2% (215) of the total number of cancer patients(1015) and this indicates the high incidence of breast cancer. A blood sample was drawn for each group of patients with cancer for the purpose of determining the blood type, the result explained the women with blood type (A) have the highest incidence of breast cancer, followed by the type of blood (O, B) and the lowest type of blood (AB) (36.3, 32.1, 22.3, 9.3) % respectively. These results are agree with the results of a number of studies that attempted to prove the relationship of cancer with blood type, although there was a disparity in the outcome, including the study of which found a relationship between blood type and breast cancer. (figure 2)
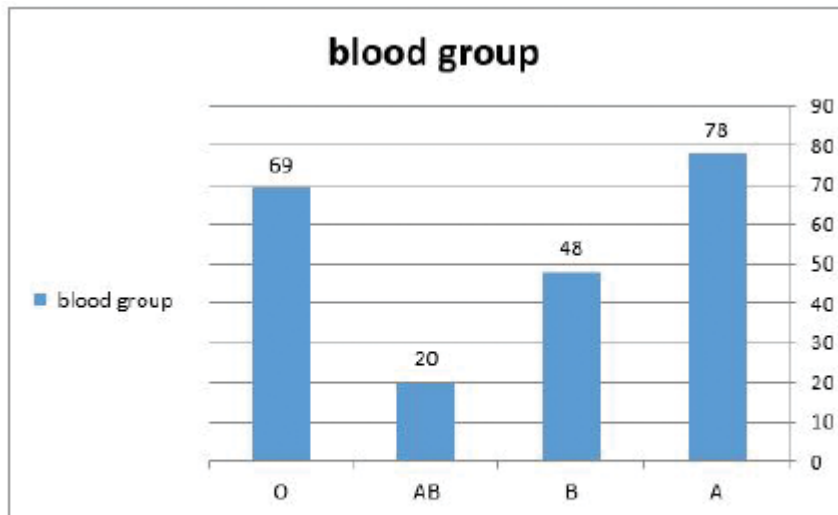


**Figure 2: Explain the relation between Blood group and breast cancer**

Also the results showed that women taking oral contraceptives are more likely to be infected( figure 3), and this is agree with Nygren et al. This explains that the treatment of (estrogen,

progesterone) of the risk of breast cancer by 55-100%, Estrogen plays an important role through its receptors in a process Growth and proliferation of cells in the natural breast tissue,
thus increasing the levels of estrogen with a view to pharmacological treatment May lead to the emergence of growth and proliferation of cells from control and the development of cancer



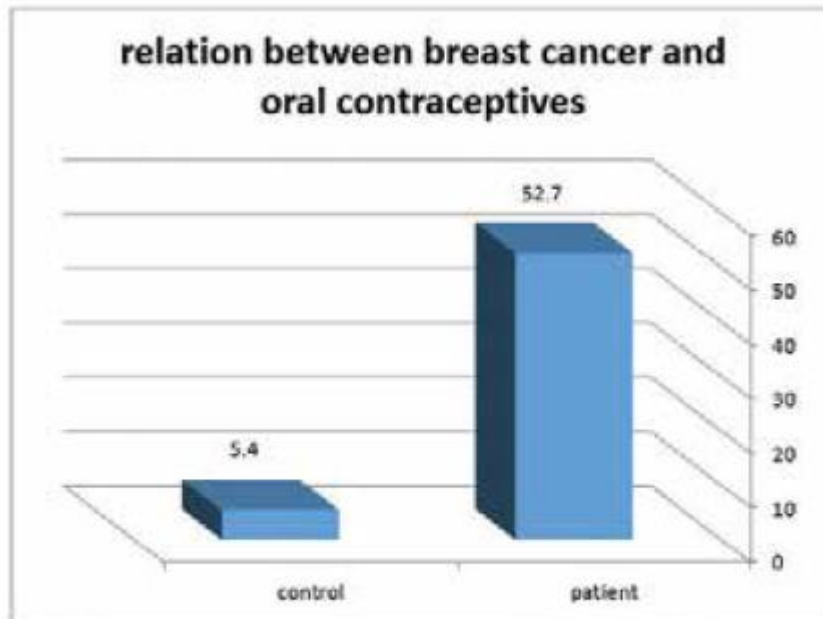**relation between breast cancer and oral contraceptives**

Figure 3: Explain the relation between oral contraceptive and breast cancer

We see a rise in the obesity factor in women with breast cancer compared to healthy women (figure 4) Consequently, obese females are more likely to develop breast cancer, and this is agree with This is because lipid tissue is an important source of estrogen in obese, as fat cells increase the of fat number Sex hormones in the body play a role in the production of estrogens and act to increase the conversion of androgens induced The enzyme aromatase to estrogen, thus increasing levels of estrogen and its effect on the path of growth and proliferation of other cells Thus natural development of estrogen-positive future cancers.
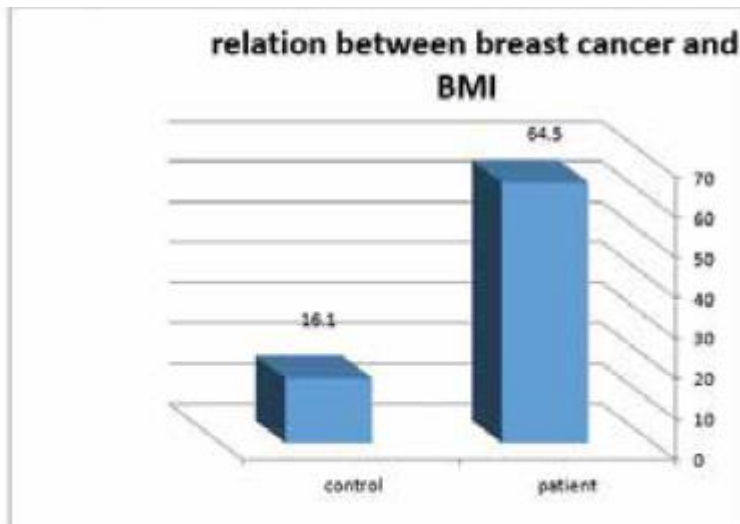
Figure 4: Explain the relation between BMI and breast cancer

The study showed that the level of education for women plays a large role in the prevalence of breast cancer, with 36.3% of the illiterate women, 28.8% of the women with primary education, 15.8% secondary education, 11.6% of the diploma and 7.4% of the Bachelor's degree ( figure 5)
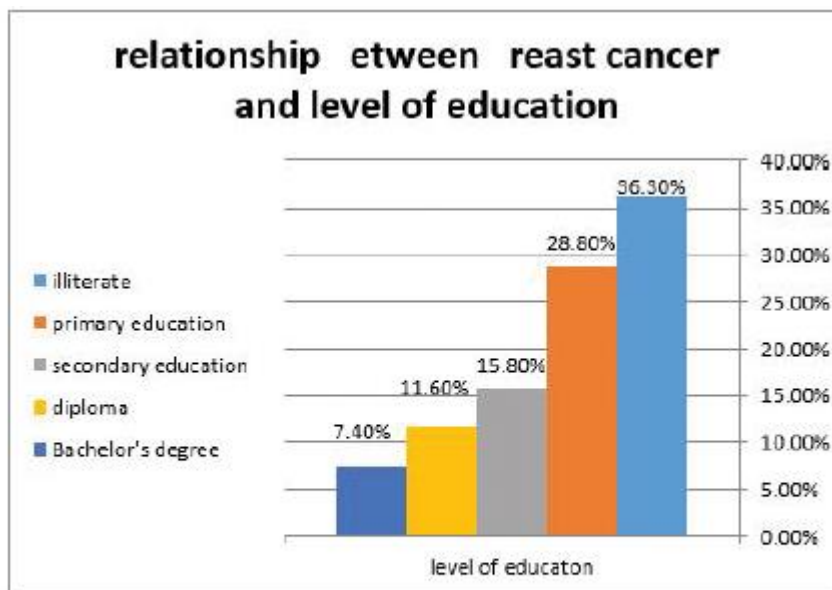


Figure 5: Explain the relationship between level of education and breast cancer

## Conclusions and Recommendations
### Conclusions
 The rate of breast cancer was higher for other cancers The study showed that oral contraceptives were a risk factor for cancer Breast. The study showed that obesity is a risk factor for breast cancer. The study showed is a relationship between blood groups and breast cancer.
### Recommendations

We recommend that women use oral contraceptives to reduce the risk of breast cancer. As obesity is one of the most important factors for breast cancer, women are advised to lose weight
and exercise It is necessary to follow a regular breast examination which helps in early detection of the disease.

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**Ethical Clearance:** Not required.

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