

DISTRIBUTION OF ABO BLOOD GROUP TYPES AND RHESUS FACTOR AMONG VARIES CANCERS (LEUKEMIA, LYMPHOMA, BREAST AND COLON CANCERS) CROSS SECTIONAL STUDY IN NABLUS CITY-PALESTINE

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Abstract:

Introduction: ABO blood groups have been statistically associated with many diseases, but the relationship between ABO group and different cancers including hematological and nonhematological malignancies among Palestinian population not studied yet and remained unclear.

Aim: This study aims to describe the most commonly associated ABO blood group and Rh factor with different cancer types (leukemia, lymphoma, breast cancer and colon cancer).

Methodology: A quantitative cross-sectional study, that the quantitative approach is the best approach for studying a linear relationship between two variables. 200 cancer patients were recruited in the study collected from two centers of cancer in Nablus city: Najah National Hospital and ALwatany Hospital from a population of 2200 patients with confidence interval 95% and P_value 5% and response rate from sample size 328 is 60%, Participants were 84 males and 116 females. And there were 64 patients diagnosed as leukemia (39 males and 25 females), 20 patients diagnosed as lymphoma (9 males and 11 females), 46 patient diagnosed as colon cancer (36 males and 10 females) and 70 patient diagnosed as breast cancer (70 females, none were male). Study participants are cancer patients that have been already diagnosed or treated in the previously mentioned hospitals and then followed up or re-admitted for further investigations or disease relapse.

Results

1. Breast cancer results: Blood group "A" has the highest incidence of breast cancer (37.14%), blood group "O" has (35.71%); "B" (21.42%) and blood group "AB" has (5.71%) incidence of breast cancer. Blood group "A" has the highest and blood group "AB" has the least association with breast cancer. Furthermore, "Rhesus +ve" blood group has the highest incidence of breast cancer (85.71%) and "Rhesus -ve" blood group has the least association with breast cancer (14.28%).

2. Colon cancer results: Blood group "O" has the highest incidence of colon cancer (41.30%), blood group "A" has (28.26%); "B" (15.21%) while blood group "AB" has (15.21%) incidence

of colon cancer. Blood group "A" has the highest while "AB" and "B" blood groups have the least association with colon cancer. Furthermore, "Rhesus +ve" blood group has the highest incidence of colon cancer (91.3%) whereas "Rhesus -ve" blood group has the least association with colon cancer (8.69%). Furthermore, the male has a higher incidence of colon cancer (78.26%) while a female has a lower association with colon cancer (21.73%).

3. Leukemia results: Blood group "A" has the highest incidence of leukemia (46.87%), blood group "O" has (25%); "B" has (20.31%) while blood group "AB" has the least incidence (7.81%) of Leukemic patients. Blood group "A" has the highest and blood group "AB" has the least association with leukemia. Furthermore, "Rhesus +ve" blood group has a high incidence of leukemia (87.5%) and "Rhesus -ve" blood group has the least association with leukemia (12.5%). Furthermore, the male has a high incidence of leukemia (60.93%) and female has the least association with leukemia (39.06%).

4. Lymphoma result: Blood group "A" has the highest incidence of lymphoma (60%), blood group "O" has (25%); "AB" (10%), and blood group "B" has (5%) incidence of lymphoma. Blood group "A" has the highest and blood group "B" has the least association with lymphoma. Furthermore, "Rhesus +ve" blood group has a high incidence of lymphoma (85%) and "Rhesus -ve" blood group has the least association with lymphoma (15%). Furthermore, the female has a high incidence of lymphoma (55%) and a male has the least association with lymphoma (45%).

Conclusion:

1. Breast cancer: Blood group "A" and "Rhesus +ve" have the highest incidence of breast cancer, while blood type "AB" and "Rhesus -ve" are at low peril of breast cancer.

2. Colon cancer: Blood group "O" and "Rhesus +ve" have the highest incidence of colon cancer, while blood type "AB" & "B" and "Rhesus -ve" are at low peril of colon cancer. Furthermore, the male has a higher incidence of colon cancer than female patients.

3. Leukemia: Blood group "A" and "Rhesus +ve" have the highest incidence of leukemia, while blood type "AB" and "Rhesus -ve" are at low peril of leukemia. Furthermore, the male has a high incidence of leukemia than female patients.

4. Lymphoma: Blood group "A" and "Rhesus +ve" have the highest incidence of lymphoma, while blood type "B" and "Rhesus -ve" are at low peril of lymphoma. Furthermore, the female has a high incidence of lymphoma than male patients.

These results of our research can improve many studies that studying the relationship between ABO blood group and cancers, after collecting these studies we can give many recommendations in our nursing educational role by orienting specific people with specific blood group type who have more prone to develop a specific type of cancer to follow preventive and screening programs and to be more aware than others.

Keywords: ABO group, Rh factor, cancer, lymphoma, leukemia, breast, colon, Nablus, Najah National University Hospital, Al-Watani Hospital.