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### Retrospective and prospective ovarian cancer comparison in few Iraqi provinces

Samira Abdul-Hussain Abdullah

College of Medicine , Tikrit University , Tikrit , Iraq

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##### Corresponding Author:

**Name:** Samira Abdul-Hussain

**E-mail:**

[Drsamira2018r@tu.edu.iq](mailto:Drsamira2018r@tu.edu.iq)

**Tel:**

#### ABSTRACT

Ovarian cancer is the second most common cause of death with cancer, and the third most common malignancy. Many factors considered to be risk factors, among that, age group, family history and marital status. A total of 183 samples were collected from three northern Iraqi provinces and one from the south. Patient women samples with ovarian cancer were collected from Kirkuk, Erbil, Sulaimanyah and Dhi Qar. Patients samples were collected during the period from first of January 2013 to the end of December 2013. The data were collected through a questionnaire.

Age produced positive effect on the presence of ovarian cancer. This positive effect started from the age of 31 years and upward. Marital status produced positive effect on women with ovarian cancer. On the other hand, family history has no effect on women ovarian cancer in the Northern Iraqi province, while it has a positive effect in the South (i.e, Dhi Qar province).

#### Introduction

Ovarian cancer is the second most common causes of cancer death worldwide. In developed countries, ovarian cancer forms about 31.4% of the gynecologic cancers [1]. Ovarian cancer is of different types, it can be formed from epithelial tissue surround the ovary, or from stromal cells or from germ cells forming the ova. 90% of ovarian cancer are epithelial[2,3]. Epithelial ovarian cancer is the most common malignant type in the west, which cause death [4]. The risk of this type increases with increasing age [5, 6].

Many factors are considered as risk factors, among that; family history, infertility and bearing no children. While using pills to control pregnancy decreases the risk of ovarian epithelial cancers [7].

Ovarian cancer begins mainly from a primary growth which starts from the ovary or spread from other organs, which is considered as secondary. Cancer is a disorder cell growth as a swelling made up of a mass of cells [8]. Cancer is a growth of cells out of control [9].

**Aim of the study:** the aim was to compare in a retrospective and prospective study the cases of ovarian cancer in few Iraqi provinces.

#### Patients and Methods

A cross sectional study of (183) patient women with ovarian cancer were performed during the period from the first of January 2013 to the end of December 2013. Samples were chosen from women attended to the hospitals in few Iraqi provinces. These provinces were Kirkuk, Erbil, Sulaimanyah at the north compared to the cases from Dhi Qar at the south, a number of collected cases were; 47, 38, 52, 46 respectively. Cancer cases were collected from Hewa hospital and histopathological laboratory in Sulaimanyah, Kirkuk teaching hospital/ department of Oncology at Azadi teaching hospital in Kirkuk, and maternity hospital in Erbil. Cases collected from Dhi Qar were from Imam Hussain teaching hospital.

Cancer cases have been diagnosed by histopathologist at the above mentioned hospitals. Age groups included in the present work were eleven years and up word. Samples were removed through surgical operations, which included cystectomy, Oophorectomy, Salpingo - Oophorectomy and total hysterectomy with unilateral or bilateral Salpingo-Oophorectomy.

**Questionnaire:** this form was filled directly from the patients or their families or relatives during their contact with the hospital for treatment. Some

information were gathered from hospital records (files). The questionnaire included age group, family history and marital status.

**Data presentation:** Data were presented as number and percentages.

## Results and Discussion

### Age groups:

Table (1) shows the patients age groups in the study including Iraqi provinces; Kirkuk, Erbil, Sulaimaniyah at the north and Dhi Qar in the south.

The highest age group with ovarian cancer in Kirkuk was the age (51-60) (34%), followed by the age groups (31-40) and (41-50) which formed (23.4%) each. In Erbil the highest percentage (28.9%) was the age group (31-40) and (41-50), followed by the age group (51-60) (23.7%). In Sulaimaniyah, the age group (51-60) formed the highest ratio (28.8%), followed by the age group (31-40), (41-50) and (61-70), each of which formed (17.3%). At Dhi Qar province the highest ratio (26.1%) formed by age group (51-60), followed by the age group (41-50) (19.6%).

The present results showed that women age has close association with the presence of ovarian cancer. The mean age of women with ovarian cancer in the current work was 45 years in both Kirkuk and Erbil. This result is close to the study of Abdul-Majeed and

Yahya [10] in Mosul, where they found the mean age group with ovarian cancer was 47 years. While the mean age group of women ovarian cancer in Sulaimaniyah and Dhi Qar was 50 years. This is comparable to or close to the study of Malik [11], who found the mean age group in Pakistan was 49.5 years.

In the year 2007, the middle east cancer consortium (MECC) evaluated the incidence of ovarian cancer among four members in the consortium countries, namely, Egypt, Israel, Cyprus and Jordan and compared that to the US SEER data base and noticed that, the highest proportion of patients women was the age group 50 to 69. In Jordaians, Israeli Arab, and Egyptians, the highest age group was below the age of 50 years. The results of Sulaimaniyah and Dhi Qar agree with the study of Merrite et.al [12]. While the study of Hegazi, et. al [13] suggested that the mean age group to be 53 years, which is slightly above the value of Sulaimaniyah and Dhi Qar. The lowest values recorded by the younger age group (11-20), (21-30) and the older age group above seventy years. This is because ovarian cancer is a pre-post-menopausal disease. The younger ages are less subjected to the disease, while the old age group may passed their way.

**Table (1) Patients age groups with Ovarian Cancer:**

Age group (years)	Frequencies and Percentages							
	Kirkuk		Erbil		Sulaimaniyah		Dhi Qar	
	No	%	No	%	No	%	No	%
11-20	2	4.3%	---	---	1	1.9%	5	10.9%
21-30	3	6.4%	2	5.3%	7	13.5%	7	15.2%
31-40	11	23.4%	11	28.9%	9	17.3%	2	4.3%
41-50	11	23.4%	11	28.9%	9	17.3%	9	19.6%
51-60	16	34%	9	23.7%	15	28.8%	12	26.1%
61-70	4	8.5%	5	13.2%	9	17.3%	5	10.9%
More than 70	----	----	---	---	2	3.8%	6	13.0%
Total	47	100%	38	100%	52	100%	46	100%

### Family history:

The present work data proved a negative relation of family history with ovarian cancer. It is obvious from table (2) that in the northern provinces, the ratio of negative family history were much higher than the positive, while on the other hand, positive family history (73.9%) was found in Dhi Qar and was much more than the negative. The ratio of variations among the different provinces can be explained by the different climatic conditions, in addition to the type and nature of food used by the people.

Kurian, et.al [14] in his study in US, proved a positive family history in only 15%. While Malik [11] and Samra [15] also proved negative family history in their studies, in ratios of 80% and 78% respectively.

**Table (2) Family history and women ovarian cancer relation.**

Provinces	Total number	Family history			
		Yes		No	
		No	%	No	%
Kirkuk	47	9	19.1%	38	80.9%
Erbil	38	9	23.7%	29	76.3%
Sulaimaniyah	52	11	21.2%	41	78.8%
Dhi Qar	46	34	73.9%	12	26.1%
Total	183	63	34.4%	120	65.6%

### Marital status:

Ovarian cancer ratio was higher among the married women than the single. Table (3) shows these results. In all the northern and south provinces the ratios were higher. These ratios were higher in the provinces of Kirkuk, Erbil and Dhi Qar more than Sulaimaniyah.. these differences can be also related to the climatic conditions.

Samra, et. Al [15] reported a ratio of 84.8% ovarian cancer among married women, which is close to the result of three above mentioned provinces, and slightly higher than that of Sulaimaniyah. Malik [11]

reported a ratio of 92% among married women, while only 19% of single women were with the disease in Pakistan.

**Table (3) Marital status and the occurrence of ovarian cancer.**

Provinces	Total number	Marital status			
		Married		Single	
		No	%	No	%
Kirkuk	47	39	83%	8	17%
Erbil	38	33	86.8%	5	13.2%
Sulaimaniyah	52	39	75%	13	25%
Dhi Qar	46	37	80.4%	9	19.6%
Total	183	148	80.9%	35	19.1%

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## Conclusion and Recommendation

The highest age group which subjected to ovarian cancer was the age group 31 and above. Family history has negative effect on women ovarian cancer in the north, (i.e, Kirkuk, Erbil and Sulaimaniyah), while it has a positive effect on the south (i.e, Dhi Qar). Negative relation was found between the marital status and ovarian cancer in all study provinces.

Genetical analyses are required for the early ovarian cancer detection.

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## استعادة حالات سرطان المبيض ومقارنتها في بعض المحافظات العراقية

سميرة عبد الحسين عبد الله

كلية الطب ، جامعة تكريت ، تكريت ، العراق

## الملخص

سرطان المبيض هو الثاني والاكثر شيوعاً، والمسبب للوفيات هناك عدة عوامل تعتبر عوامل خطورة، من بين ذلك، المجموعة العمرية، التاريخ الاسري والحالة الزوجية. جمعت 183 عينة من ثلاث محافظات شمالية في العراق وواحدة من محافظة جنوبية. جمعت العينات من نساء مريضات بسرطان المبيض في محافظات كركوك، اربيل، سلیمانية و ذي قار خلال الفترة من الاول من كانون الثاني 2013 ولغاية نهاية كانون الاول 2013. تم جمع المعلومات من خلال استمارة استبيان. كان للعمر تأثير ايجابي على حدوث سرطان المبيض. وهذا التأثير ايجابي كان يبدأ من عمر 31 والى الامام. الحالة الزوجية ايضاً كان لها تأثير ايجابي على النساء المصابات بسرطان المبيض. وفي الجهة الاخرى لم يكن للتاريخ الاسري تأثير على ظهور سرطان المبيض في المحافظات العراقية الشمالية، بينما كان له تأثير ايجابي في محافظة ذي قار جنوب العراق.