



Epidemiological Assessment of ovarian cancer in some northern Iraqi provinces

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ABSTRACT

Introduction: Ovarian cancer is the third most common malignancy and the second most common cause of cancer death worldwide among gynecologic cancers.

Materials & Methods: The study was a retrospective, during one-year period, from (January 2013 to December 2013). A total of 106 cases of ovarian cancer were included and collected from Hospital and Private histopathology laboratories in Sulaimaniyah, Erbil and Kirkuk. Patient age was ranged between (5 months-80 years). Patients were distributed into many age groups. The mean age was 46 years. This study aimed to find out the cases of ovarian cancer in the above provinces, and to identify a number of factors associated with increased the incidence including age, marital status, socioeconomic status, family history of cancer.

Results: The results showed the highest age group ratio with ovarian cancer were within the age group (45 – 59) years old with percentage of 38 % which was the per menopause and postmenopausal age and hormonal disorders. According age groups the data showed significant differences under level of significance ($p < 0.05$). Twenty-five patients (24%) have family history of malignant disease. The majority of the cases were married 86 cases (81%). 66 cases (77%) have history of pregnancy (have one or more children), and 20 cases were nulliparous. Most patients 58(55%) were of medium socio-economic status.

Introduction

Ovarian cancer is the most common lethal gynecologic malignancy [1]. Higher incidence rates of ovarian cancer are reported in North America and European countries exceeding 10/100.000. Lower rates are reported in Southern Asia and South America 7.5 and 7.7/ 100.000 respectively) [2] Ovarian cancers is the 2nd most frequent gynecologic malignancies in the United States following endometrial cancer. In 2011 a approximately 22,880 new cases of ovarian cancer in the U.S. a diagnosed of epithelial ovarian cancers, and 15,500 died of this sickness [3-4]. The prevalence of epithelial ovarian cancer varies around the world, is highest in Central, Northern and Eastern Europe followed by Northern America and Western Europe, and lowest in Africa and components of Asia [5]. In Iran, the cancer of ovary is the ninth most generic incidence among women, And a five-year survival of ovarian cancer

cases is approximately 45.9% [6]. In Turkey, the 8th most in many instances considered neoplasm is ovarian cancer [7]. The data from the Saudi Cancer Registry (SCR) shows ovarian cancer ranked seventh in cancers incidence among Saudi women. In Saudi Arabia in 2012 the age standardized incidence rate (ASIR) of ovarian cancer was 3.4 / 100, 000 women. It is low in evaluation with other international locations in the Arabian Gulf. In 2012, the mentioned ASIR of ovarian cancer for Oman, United Arab Emirates, Kuwait, Qatar, and Bahrain was once 10.2, 6.4, 4.7, 4.6, and 4.4 / 100,000 women, respectively [8]. In Iraq ovarian most cancer was at rank sixth 307/0000 (3.81%) of most common cancers according to the Iraqi cancer registry in 2009. About 10-15% of cases have hereditary susceptibility and the huge majority due to breast cancer kind 1 (BRCA1) and BRCA2 germline mutations, and the

relaxation are supposed to be sporadic [9-10]. Risk factors of ovarian cancer include: chronic infection, age, nonsteroidal anti-inflammatory drug (NSAID) use, ethnicity, hormone alternative therapy, hysterectomy, oral contraceptives pills (OCPs) use, diet infertility drug use, obesity, parity (pregnancy), talc use and smoking [11]. So, the present study objectives to find out the cases of ovarian cancer in a retrospective study in the provinces of Kirkuk, Sulaimaniyah and Erbil throughout the period from January 2013 to December 2013.

Materials & Methods

Study Design Selection and Criteria

Retrospective study were performed in the present study. The study included collection of 106 cases of (from January - December 2013). Patients age were ranged between (5 months-80 years) diagnosed by histopathologist in Azadi Teaching Hospital in Kirkuk City and Shorsh Hospital at al Sulaymaniyah city.

Patients and Methods

Tumor samples were collected from three provinces included Sulaymaniyah, Erbil and Kirkuk.

Questionnaire

Questionnaire was designed to collect data from meeting with the patients or their families or during their contact to the hospital for treatment, or from their relatives, or through hospital records (files). Questionnaire included, age, marital status, socioeconomic status, number of children, lactation, family history of cancer.

Statistical Analysis

Data were analyzed using the Minitab program, according to Chi-square test and significant at level (<0. 05) and (<0. 01) [16].

Results and Discussion

Age groups

Mean age of the whole groups of cases in this study was 46,(table 1 and figures 1) shows women age groups with ovarian cancer. It is clear that ovarian cancer in women aged 45–59 years were the most diagnosed, followed by the age group 30-44 years, 40 cases formed 38%and 31 cases formed 29% respectively of the total cases number of ovarian cancer. While, the older (up75 years) and younger (0–14 years) groups recorded the lowest percentage of the cases. The age 15-29 and 60-74 formed 11% and 17% respectively. The present study showed the age of the women positively associated with ovarian cancer, this result was similar to was the other results [12].Many other studies were comparable to the age of the current study. The middle east most cancers consortium (MECC), in 2007 evaluated the incidence of woman ovarian cancer among some members contributors in the consortium countries specifically Israel, Cyprus, Egypt and Jordan and compared it to the data base the US SEER , and seen that, while in Cypriots, SEER data and Israeli, the perfect percentage of patients with ovarian cancer had been in the age group (50- 69) years, in Jordanians,

Egyptians, and Israeli Arabs, the highest percentage of the age group was beneath the age of 50 years, which was close to the current results. in Pakistan the mean age of cases was 49.5 years [13].In Mosul, the mean age of ovarian cancer was once 47 years [14]. the studies of [13-14] obtained very close results to the present study. Generally ovarian cancer is a disease of pre and postmenopausal women. In contact American study by [15]. recorded the age of fifty and above for ovarian cancer. In a study concerned the epidemiological and pathological correlates of postoperative mortality of patients with ovarian cancer, he found the mean age of 53 years which is not in agreement with the results of the present study [16].

Table 1: Age groups of patients with ovarian cancer

Age group	No. of cases(Percent)						Total	
	Sul		Erb		Kir		No.	%
	No.	%	No.	%	No.	%		
≤14	1	2%	0	0%	2	6%	3	3%
15-29	7	16%	2	7%	3	8%	12	11%
30-44	9	21%	11	41%	11	31%	31	29%
45-59	15	35%	9	33%	16	44%	40	38%
60-74	9	21%	5	19%	4	11%	18	17%
Up 74	2	5%	0	0%	0	0%	2	2%
Total	43	100%	27	100%	36	100%	106	100%

X2 = 10. 342 **P-Value = 0. 005
Sul: Sulaimaniah Erb: Erbil Kir: Kirkuk

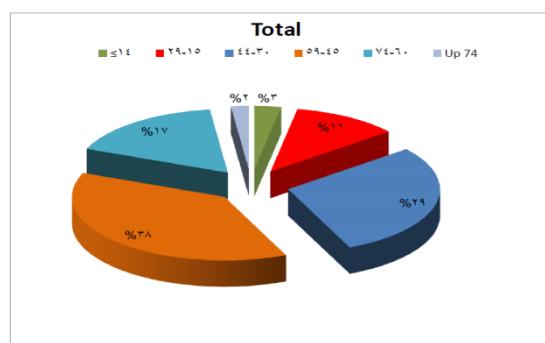


Figure (1) Percentage of different Age groups for ovarian cancer at the different provinces

Family History

Family history is consider as an important risk factor of ovarian cancer. The present study reported that the negative family history for ovarian cancer was in 81 (76%), while in 25 (24%) patient reported positive family history suggested no significant difference. Table (2), figure (2). In contrast, in US study, it was found that the family history was positive in 15% of cases [17], The results of present work were not in agreement with the results of the U.S study [18], this variation can be related to the different climatic conditions or the way people live. Other studies accounted 80% negative family history, 20% positive family history, and 78. 9% negative family history, 21. 1% positive family history [13, 19] respectively, these studies were in agreement with the present study. The present study observed indirect associated between family history and ovarian cancer patients.

Table 2: Relation of the patient's cancer with family history

Provinces	Family history			
	Yes		No	
	No.	%	No.	%
Sulaimaniyah	12	28%	31	72%
Erbil	6	22%	21	78%
Kirkuk	7	19%	29	81%
Total	25	24%	81	76%

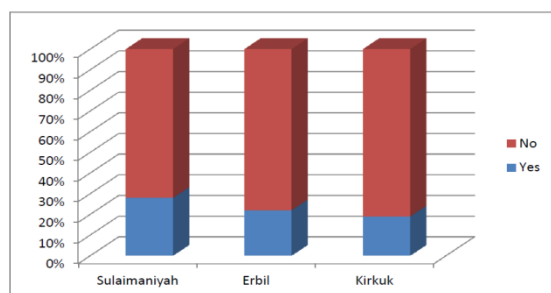


Fig. 2: Percentage of ovarian cancer with family history in three provinces

Marital status

The results of the study also showed that, the ovarian cancer rate was high in married women groups 81% (86 cases) compared with single group 19% (20 cases). These results appeared obvious in all collected samples from all the provinces, (table 3 and figure 3). These results are close to the study of Samra et al, [19], who reported that (84. 8%) were married. Malik (2002) recorded in his study, married women formed 92% and 19% for single women [13].

Table 3: Relationships between the marital state and its location at the different provinces and occurrence of ovarian cancer

Provinces	Marital state			
	Married		Single	
	No.	%	No.	%
Sulaimaniyah	33	77%	10	23%
Erbil	24	89%	3	11%
Kirkuk	29	81%	7	19%
Total	86	81%	20	19%

$\chi^2 = 1.610ns$ P-Value =0.447

References

[1] Zhang, Y., Luo, G., Li, M. et al((2019). Global patterns and trends in ovarian cancer incidence: age, period and birth cohort analysis. BMC Cancer 19, 984.
 [2] Parkin, D. M., Bray, F., Ferlay, J and Pisani, P (2005). Global cancer statistics, 2002. CA Cancer J Clin;55 (2):74-108.
 [3] Halperin, E. C., Brady. L. W., Perez. C. A and Wazer, D. E (2013). Perez & Brady's Principles and Practice of Radiation Oncology. Lippincott Williams & Wilkins. PP:1454-57.

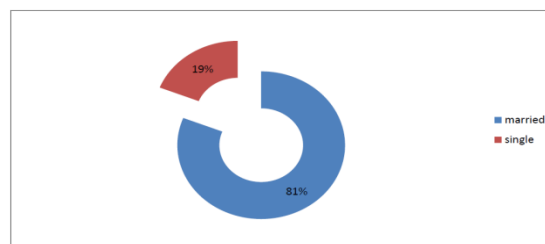


Fig. 3: Marital status and the percentages of ovarian cancer occurrence at the three provinces

The socioeconomic status.

In the present study, most of the cases belonged to the medium and good state socioeconomic level and formed 55% (58 cases), 28% (30 cases) respectively (table 4 and figure 4). This result is comparable to the results obtained by Malik (2002)[13], who had 48% of the medium socioeconomic status. This is because the medium socioeconomic status had the ability to contact the clinic easy and fast than the poor socioeconomic status. The possibility of the good and medium socioeconomic status to go to the clinic and ask for help much more than the poor socioeconomic status.

Table 4: The socioeconomic state of cancer women at the different provinces

Provinces	Socioeconomic status						Total	
	Good		Medium		Poor		No.	%
	No.	%	No.	%	No.	%	No.	%
Sulaimaniyah	12	28%	19	44%	12	28%	43	100%
Erbil	7	26%	17	63%	3	11%	27	100%
Kirkuk	11	31%	22	61%	3	8%	36	100%
Total	30	28%	58	55%	18	17%	106	100%

$\chi^2 = 6.753^*$ P-Value =0.051

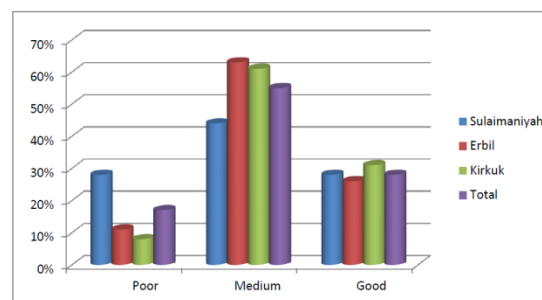


Fig. 4: The percentages of socioeconomic status and the occurrence of ovarian cancer at three provinces

[4] Siegel, R., Naishadham, D and Jemal, A (2012). Cancer statistics for Hispanics/Latinos. CA Cancer J Clin, 62 (5):283-98.
 [5] Lowe, K. A., Chia, V. M., Taylor, A., O'Malley, C., Kelsh, M., Mohamed, M., Mowat, F. S and Goff, B (2013). An International Assessment of Ovarian Cancer Incidence and Mortality. GynecolOncol, 130 (1):107-14
 [6] Arab, M and Noghabaei, G (2013). Ovarian Cancer Incidence in Iran and the World. Reports of Radiotherapy and Oncology, 1 (2):69-72.

- [7] Demirci, E., Daloglu, F.T., Calik, M., Altun, E, Sipa, S, and Borekci, B (2015) Changing Trends in the Incidence of Ovarian Neoplasia and Its Relationship with the Risk Factors: A Report of 311 Cases from North-Eastern Anatolia Region. North-Eastern Anatolia Region. *Eurasian J Med.* 2015 Feb;47(1):48-55
- [8] Alghamdi, I. G., Hussain, I. I., Alghamdi, M. S., Alghamdi, M. M., Dohal, A. A and El-Sheemy, M. A (2014). Incidence rate of ovarian cancer cases in Saudi Arabia: an observational descriptive epidemiological analysis of data from Saudi Cancer Registry 2001–2008). *I J W H.*,6: 639–45.
- [9] Malander, S., (2004). One in 10 ovarian cancer patients carry germ line BRCA1 or BRCA2 mutations: results of a prospective study in Southern Sweden. *Eur J Cancer*, 40 (3): p. 422-8.
- [10] Momenimovahed, Z., Tiznobaik, A., Taheri, S., & Salehiniya, H. (2019). Ovarian cancer in the world: epidemiology and risk factors. *International journal of women's health*, 11, 287–299.
- [11] Mclemore, M. R., Miaskowski, Ch., Aouizerat, B. E., Chen, LM and Dodd, M. J (2009). Epidemiologic and Genetic Factors Associated with Ovarian Cancer. *Cancer Nurs.* 32 (4): 281–90.
- [12] Arab, M., Khayamzadeh, M., Tehranian, A., Tabatabaeefar, M., Hosseini, M., Anbiaee, R., Golfam, F., and Akbari, M. E (2010) Incidence rate of ovarian cancer in Iran in comparison with developed countries. *Ind. J. Can.*, 47 (3) : 322-27.
- [13] Malik, J. A (2002). A prospective study of clinicopathological features of epithelial ovarian cancer in Pakistan. *J Pak Med Assoc*, 52 (4): 155-58
- [14] Abdul Majeed, Abdul-M and Yahya, T. T (2008) Pathological study of ovarian tumors in Mosul. *Tik.Med. J* ; 14 (1):157-160.
- [15] Merritt, M. A., De Pari, M., Vitonis, A. F., Titus, L. J., Crame, D. W., and Terry, K. L (2013) Reproductive characteristics in relation to ovarian cancer risk by histologic pathways. *Human Reproduction*, 28 (5) Pp: 1406–17.
- [16] Hegazi, R. A., Abdel Wahab, K., El Nahas, W., Mosbah, M., Refky, B and Mohamed A Hegazy, M (2013). Epidemiological and Pathological Correlates of Postoperative Mortality of Patients with Ovarian Cancer. *Surgery Curr Res*, 3 (1):2-5
- [17] Torre, L. A., Trabert, B., DeSantis, C. E., Miller, K. D., Samimi, G., Runowicz, C. D., Gaudet, M. M., Jemal, A., & Siegel, R. L. (2018). Ovarian cancer statistics. *CA: a cancer journal for clinicians*, 68(4), 284–296.
- [18] Kurian, A. W., Baliseb, R. R., Valerie McGuireb. V and Whittemore, A. S (2005) Histologic types of epithelial ovarian cancer: have they different risk factors? *Gynecologic Oncology*, 96 : 520–30.
- [19] Samra, Z. Q., Hussain, T., Khaliq, Z., ul-Haq, I and Anwar, r (2014). Ovarian Cancer among Women of Lahore Metropolitan; a Survey. *IJIMS*, 1 (6): 276-78.

تقييم وبائي لمرضى سرطان المبيض في بعض محافظات شمال العراق

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الملخص

يعد سرطان المبيض (OC) من الاورام الخبيثة الشائعة في العالم ويحتل المركز الثالث، ويعتبر المسبب الثاني الأكثر شيوعاً للوفاة بالسرطان من بين سرطانات الجهاز التناسلي للمرأة.

المواد والطرق: كانت الدراسة بأثر رجعي ومستقبلي والتي استمرت سنة واحد، للفترة من (كانون الثاني 2013 إلى كانون الاول 2013). شملت هذه الدراسة 106 مريضة مصابة بسرطان المبيض، تم جمع العينات من المستشفيات ومن بعض المختبرات الاهلية للأنسجة المرضية في السليمانية وأربيل وكركوك. تراوحت أعمار المصابات بين (5 أشهر - 80 سنة) وتم تقسيم المرضى إلى عدة فئات عمرية. كان متوسط اعمارهن 46 سنة.

هدفت الدراسة إلى معرفة عدد من الحالات المصابة بسرطان المبيض في المحافظات المذكورة اعلاه، والتعرف على عدد من العوامل المرتبطة بزيادة الإصابة مثل العمر، التاريخ العائلي، الحالة الاجتماعية، الحالة الاقتصادية والتاريخ العائلي لمرض السرطان.

النتائج: اظهرت النتائج ان اعلى نسبة للإصابة بسرطان المبيض كانت ضمن الفئة العمرية (45-59) سنة وبنسبة 38%. وهي فترة ما قبل انقطاع الطمث والعمر بعد انقطاع الطمث والاضطرابات الهرمونية. كما بينت نتائج التحليل الاحصائي للفئات العمرية وجود فرق معنوي عند مستوى $(p<0.05)$.

واظهرت الدراسة ان (24%) من المصابات كانت لديهن تاريخ عائلي للإصابة بالسرطان. كما اظهرت النتائج ان غالبية النساء المصابات كانت من المتزوجات وبنسبة (81%) 86 مريضة. 66 حالة (77%) سبق لهن الانجاب (لديهن طفل واحد أو أكثر)، اما النساء اللاتي لم ينجبن فكن 20 مريضة. وبينت نتائج الدراسة ان غالبية المصابات كن ضمن الطبقة الاقتصادية المتوسطة وبنسبة (55%).