

# **Genital cancer among women in Iraq.**

**Key words: Epidemiology, Genital cancer, Incidence, Iraq, Women.**

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## **Abstract**

**The incidence of genital malignant diseases among Iraqi women is reviewed from 2013-2022 in various Iraqi provinces. The incidence rates are also illustrated in relation to age, site of cancer and year of registration. Incidence rate differs widely in relation to locality, age and race. The cause is not known till now but many factors have been mentioned as Iraq exposed to the Iraq-Iran war, gulf war and the usage of uranium weapon in the south part of Iraq. In addition, oil wheel fire in gulf war in south of Basrah, as well as the pollution caused by cars and generators for electricity production that expected to have an effect on the increased cancer rate in Iraq. Old age is important risk factor for cancer. Approximately half of all malignancies are detected in patients older than 65 years. The low activity of immune system with age is reflected in the increase susceptibility to disease, poor response to vaccination, auto-immune disease and other chronic diseases might have a vital role on the increased rate of malignancy. Aging also characterized by impaired normal physiological functions. All authors in Iraq has indicated the highest incidence observed in this review was ovarian and cervical cancers**

while the rarest was vaginal, vulvar and fallopian tube cancer. So, encouraging women for continuous medical consultation for early detection of any genital malignancies especially for patients with family history of a such diseases is indicated.

## **Introduction**

Genital cancers are distributed worldwide. They are responsible for millions of morbidity and mortality. Thus, it is a public health problem in many parts of the world. In addition, genital cancer might be undiagnosed and unrecorded in many countries due to availability of various screening programs and risk factors. Many types of cancer are severe, delayed diagnosis and might metastasis has developed making the prognosis is poor. Despite a great effort to improve survival of female patients with cancer through different modalities of cancer therapy, successes are still limited. Cancers were increased with old age except breast cancer where decrease was noticed in older ages (1).

In Iraq, according to many records, somewhat between 16000 to 20000 new cases may diagnosed annually with 50% of them die within the first 5 years (2). Thus, cancer is a public health problem in Iraq as far as number of cases, cost of treatment and the mortality are concerned. For instance, in Asia in 2002 the mortality rates were 74.0 per 100000 for women respectively (3). The role of specific risk factors is still undissolved with some variation a cross the world (3-5).

The etiology of ovarian cancer is not fully clear, and many attempts have done to highlight links between environmental, dietary, reproductive, endocrine, viral, and hereditary factors and the risk of developing ovarian cancer. There are many risk factors such as human papilloma virus infections, smoking, increased body weight, and long-term use of birth control pills (6,7).

The Eastern Mediterranean Region countries are characterized a great difference in cancer incidence. (8). The cases have been increased by (46.1%) between 2005 and 2015 (9). The present review aimed to determine the

analysis among Iraqi women according to age, year of registration and cancer site over time.

## **Results and Discussion**

The incidence rates of genital cancer are reviewed among women in different Iraqi provinces from 2013-2022. The incidence is varying from one region to another (Table 1).

Genital cancer became a main etiology of death with an increasing worldwide especially in developing countries. The increase in life expectancy in most developing countries together with dramatic changes in life style are expected to lead to an epidemic of cancer (10). The genital cancer represents the 3rd and 4th rank among female cancer in Iraq (2).

The cause is not explained till now but many factors have been considered as Iraq exposed to the Iraq-Iran war, gulf war and the usage of uranium weapon in the south part of Iraq. In addition, oil wheel fire in gulf war in south of Basrah, as well as the pollution caused by cars and generators for electricity production that expected led to have an influence on the great cancer in Iraq.

Old age is important risk factor for cancer. Approximately 50% of all malignancies are diagnosed in patients older than 65 years (11). Inefficient immune system with age is indicated in the increase susceptibility to disease, poor response to vaccination, auto-immune disease and other chronic diseases might have an influence on the increased rate of cancer (12). Aging also characterized by impaired normal physiological functions (13).

The highest incidence observed in this review was ovarian and cervical cancers in Baghdad (14-16), Basrah (17), Sulaymaniyah, (18), Missan (19), and Karbala (20,21). The incidence rate of genital malignancy in developed countries were 11.4 for cervical cancer and 9.9 for ovarian cancer (22). The incidence of cervical cancer varies by geographical region. It is the 6th most common type of cancer worldwide and accounted for 9.7 % of all cancer in women (23,24). Cervical cancer in developing countries is accounted for 3%. The highest rates occur in Latin American, Sub-Saharan Africa, the

Caribbean, Southern Asia. Cervical cancer in Basrah during the year 2005-2009 accounted for 3rd rank among cancer cases in females (4.7%) (17). The mean age for cervical cancer is 52 years with two peaks at 35-39 years and second at 60-64 years of age (22). The highest incidence of cervical cancer in Arabic world was in Somalia 28.4/100,000 (25). The incidence in the Arabic countries near Basrah like Kuwait 4.6, Saudia Arabia 3.2 in comparison with incidence in Basrah 3.6/100,000 (25).

The 3rd commonest genital cancer in Iraq is uterine cancer as in Basrah (17), Baghdad (15) and Karbala (20,21). Uterine cancer is the 7th most common cancer in women worldwide. It constitutes 11.3 for the developed countries. In United States it makes up to 6% of all cancer cases (26,27). The rates of uterine cancer had peaked in the mid-1970s (26). Similarly, the highest incidence of uterine cancer was observed in Lebanon followed by 24.9/100,000 in Kuwait, Saudia Arabia 3.5/100,000, Egypt 2.3/100000 and least incidence was in Yemen 0.5/100,000 (25). Among the European community, the lowest uterine cancer incidence rates were recorded in United Kingdom while the highest rates were found is Solvokia (26).

Even vaginal and vulvar carcinomas are rare cancers but they have been reported in Basrah (17), Karbala (20,21) and Baghdad (16). Vaginal cancer reported at a rate of 3% while vulvar cancer accounted for 4% of all female genital cancer (27, 21). The American cancer society investigates that 3.460 women were diagnosed and 870 women die from vulvar carcinoma during 2008 (28).

Carcinoma of fallopian tube is recorded to be the lowest of all gynecological malignancies less than 1% with a yearly incidence of 3.6/100,000 women (21). There was one case of primary tubal carcinoma was reported during the 5 years in Basrah (17).

Age distribution for ovarian cancer was mainly in the age group of  $\geq 50$  years. It is a disease of postmenopausal women with an age of 50 - 75 years old (2). Furthermore, National Cancer Intelligence Network has reported that cancer rises among women in their 70s and 80s (26).

**Conclusions: Genital cancer did not give enough clinical and treatment in Iraq. Therefore, this study was designed to investigate the incidence of genital cancer among Iraqi women during 2013-2022. So, encouraging women to avoid risk factors and gynecologic consultation for early detection of any genital cancer is indicated.**

#### **Acknowledgements**

Not applicable.

#### **Author contribution**

All authors have involved in collecting data and writing up.

#### **Funding**

None.

#### **Ethics approval and consent to participate**

Not applicable.

#### **Consent for publication**

Not applicable.

#### **Competing interests**

The authors have declared that no competing interest exist.

**Table 1. Distribution of female genital cancer in relation to province, years of registration and age.**

<b>Reference</b>	<b>Province</b>	<b>Years of incidence</b>	<b>No. examined</b>	<b>Age (years)</b>	<b>Site of cancer No. (%)</b>
<b>Ameen &amp; Helmi,</b>	<b>Baghdad</b>	<b>2009-2010</b>	<b>488</b>	<b>25-85</b>	<b>Cervix 1.6%</b>

<b>2013 (14)</b>					
<b>Sharief et al., 2014 (17)</b>	<b>Basrah</b>	<b>2005-2009</b>	<b>407</b>	<b>5-75</b>	<b>Ovary 172 (42.2) Uterus 94 (23) Sarcoma 13 (3.1) Choriosarcoma 5 (1.2) Cervix 108 (26.5) Vagina 9 (2.2) Vulva 7 (1.7) Fallopian tube 1 (0.2) Secondaries 7 (1.7)</b>
<b>Khoshnaw et al., 2015 (18)</b>	<b>Sulaymaniyah</b>	<b>2006-2014</b>	<b>8031</b>	<b>14-65</b>	<b>Ovary 2.2%.</b>
<b>Hashimi et al., 2016 (19)</b>	<b>Misan</b>	<b>2014-2016</b>	<b>31</b>	<b>45-64</b>	<b>Ovary 6%</b>
<b>Al-Janabi et al., 2017 (20)</b>	<b>Karbala</b>	<b>2008-2015</b>	<b>270</b>	<b>&gt;50</b>	<b>Uterus 120 (25.5) Cervix 67 (14.2) Choriocarcinoma 8 (1.7) Vagina 3 (0.6) Vulva 1 (0.2)</b>
<b>Hashim et al., 2019 (15)</b>	<b>Baghdad</b>	<b>2012-2013</b>	<b>1152</b>	<b>&gt;50</b>	<b>Uterus 8.1% Ovary 4.5%</b>
<b>ICO/IARC centre, 2021(29)</b>	<b>Iraq</b>	<b>2021</b>	<b>286</b>	<b>15-44</b>	<b>Cervix 1.4% Vulva 0.14% Vagina 0.1%</b>
<b>Abdulla et al., 2022 (16)</b>	<b>Baghdad</b>	<b>2003-2020</b>	<b>-</b>	<b>-</b>	<b>Ovary 9% Cervix 3% Vulva &amp; vagina 2%</b>
<b>Rasul et al., 2015 (30)</b>	<b>Kurdistan</b>	<b>2014</b>	<b>1183</b>	<b>14-28</b>	<b>Cervix 64%</b>

<b>Mjali et al., 2020 (21)</b>	<b>Karbala</b>	<b>2012-2020</b>		<b>2-95</b>	<b>Ovary 270 (57.5) Uterus 120 (25.5) Cervix 67 (14.29) Choriosarcoma 8 (1.7) Vagina 3 (0.64) Vulva 1 (0.2).</b>
<b>Al-Akeedi et al., 2020 (31)</b>	<b>Baghdad</b>	<b>2018</b>	<b>700</b>	<b>1-99</b>	<b>Uterus 8.1% Ovary 4.5%</b>

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