

Pattern of Cancer: Comparison of Risk in Basrah with National Pattern

Dear Editor,

Cancer is receiving a significant attention in Iraq as a major health problem both in terms of incidence and mortality.^[1-3] Evidence from reports of the Iraqi Cancer Board over many years suggests an increasing risk of cancer incidence in Iraq.^[4] However, the apparent rise is difficult to explain on one basis. It could reflect a package of factors including improvement in case detection as a result of better diagnostic opportunity and rising awareness of the population, better registration of detected cases, as well as the recent introduction of early detection programs for selected cancers. True rise in the incident rates (IRs) cannot be excluded but may be difficult to quantify given the complexity of the situation. What are the causes behind the true rise in IRs at least in certain cancer types, nobody knows. A complex set of determinants is likely to be operating. Examples might be the extensive damage to the Iraqi environment in association with wars and economic sanctions. Basrah governorate in the southern part of Iraq received a heavy share of damage. A number of researchers blame such damage for the rise in cancer risk.^[5-9]

In this study, we examined the pattern of cancer at the level of Basrah governorate and at the national level looking for any common and/or contradictory features. The study was based on an analysis of officially reported data on new cancer cases in Iraq as a whole and at the level of Basrah governorate. For this purpose, we used data available on new cancer cases registered for Iraq in 2010 (report of 2010) and the average of data available for Basrah for the years 2005–2011. The figures for Basrah were obtained from the database of the Basrah Cancer Research Group as it represents the most comprehensive set of data on incident cancer.

Figure 1 shows the age-specific IRs of all cancers in Basrah and Iraq. The main feature of the pattern is that the age risk is similar in Basrah and Iraq in the sense that IRs increase with

advancing age. However, the age-specific IRs show a very clear distinction feature. IRs are consistently higher in Basrah at all age groups except those aged 65 years and above.

Regarding topography pattern, Table 1 shows the site-specific IRs per 100,000 population of the main cancer sites together with the excess or deficit in risk between Basrah and the national figures. Figure 2 illustrates these rates for visual display. The results identify a common pattern but the two sources of data show clear variation in IRs of most of the displayed sites. The IRs for breast cancer, urinary bladder, leukemia, stomach, bones, uterus/cervix, ovary, and larynx are

Table 1: Comparison of main site-specific incident rates of top cancers in Iraq and Basrah governorate

Type by site	IR per 100,000 in Basrah	IR per 100,000 in Iraq	Basrah excess (+) or deficit (–) on national level (%)
Breast	12.49	10.90	+14.6
Urinary bladder	6.23	3.39	+83.8
Lymphomas	4.25	4.51	–5.8
Lung	4.30	4.92	–12.6
Leukemia	4.28	4.01	+6.7
CNS	2.97	3.30	–10.0
Colon-rectum	2.92	2.99	–2.3
Stomach	2.42	1.82	+33.0
Bones	2.18	1.01	+115.8
Uterus/cervix	2.00	1.59	+25.79
Skin	1.69	2.26	–25.22
Ovary	1.68	1.20	+40.0
Larynx	1.66	1.15	+79.0
Total of the above sites	43.05	49.07	

CNS: Central nervous system, IR: Incident rate

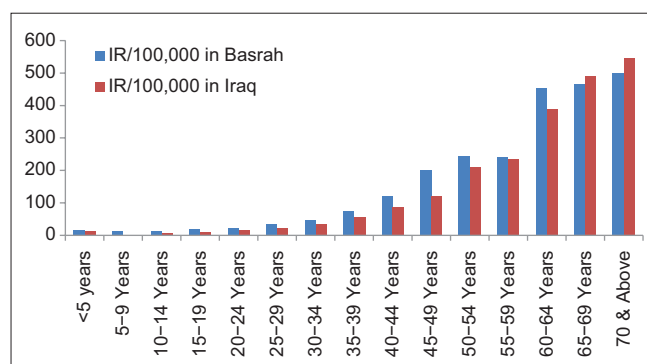


Figure 1: Age-specific incident rates of cancer of all sites: Iraq and Basrah

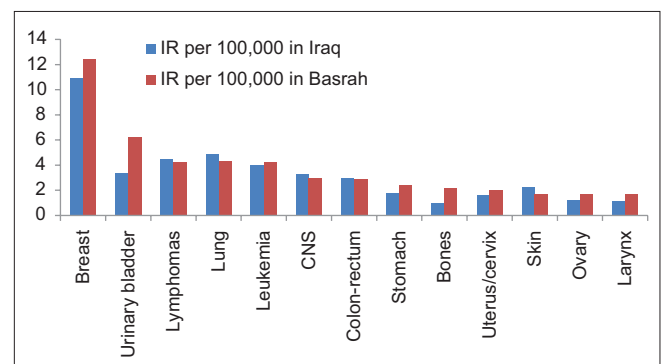


Figure 2: Site-specific incident rates of the main cancer sites in Basrah governorate and Iraq

higher in Basrah than the corresponding rates at national level. On the other hand, IRs of lymphomas, lung, central nervous system, colon-rectum, and skin are lower in Basrah compared to the national figures.

Although the study is limited, it shows that the pattern of cancer in Basrah governorate in terms of age pattern of risk and risk of selected topographic types of cancer is quite similar to the national pattern. An excess of age-specific IRs and site-specific IRs for some cancers could reflect a true variation in risk or it could be a result of differential registration coverage of incident cases. The registration process at national as well as Basrah level has undoubtedly improved during the recent years. A margin of better registration coverage might be accepted in Basrah compared to most Iraqi governorates.^[3,10]

Definitely, the data used in this article suffer from at least one shortcoming; the national data are not complete by any means. This will undermine the results for national patterns. However, given the large bulk of the data used, the results must represent an approximate measure of the true situation of cancer epidemiology in Iraq and Basrah at least in the general features.

The pattern presented suggests that the risk of cancer in Basrah is generally greater than the average national risk. Given the restrictions on the adequacy of data, it is difficult to conclude that the risk in Basrah is truly higher than that of the other parts of Iraq. But, part of the difference in risk must be true difference and cannot totally be explained by differential registration. Basrah has been a scenario for extensive military operations during two decades. Extensive damage to the environment and psychology of the people took place with all ill effects on life and health.^[11]

It is important to stress here that spatial variation in cancer risk is a function of both true differences and artificial factors such as registration, diagnosis, and accessibility to health care. The differences observed in this study, therefore, need to be interpreted within such context. Research is needed to further explore spatial variation in cancer.

In conclusion, the pattern of cancer in terms of age and site in Basrah governorate is not very identical with the national Iraqi pattern.

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Conflicts of interest

There are no conflicts of interest.

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