Cancer profile in Eastern Libya: incidence and mortality in the year 2004

Cancer is becoming a major problem in Libya; however, epidemiological data are sparse. Benghazi Cancer Registry collected data on new cases diagnosed in Eastern Libya from medical records and other facilities and mortality data from multiple sources. In 2003, we published data on cancer incidence [1]. Now we present an update on cancer incidence and, for the first time, the results on cancer mortality in Eastern Libya in 2004 (Table 1).

A total of 1160 cases were registered. The age-standardized incidence rate (ASIR) was 124.2 and 126.6 per 100 000 among males and females, respectively. The principal cancers in males were lung, colorectal and bladder; in females, the leading malignancy was breast, followed by colorectal and corpus uteri cancers. Female breast cancers were staged in 75.0% of cases according to tumor–node–metastasis classification; of these, 6.7%, 32.2%, 38.9% and 22.2% presented a stage I, II, III and IV, respectively. In the pediatric age group, we observed 40 cases, corresponding to ASIR of 82.0 per million and the most frequent histological category was lymphoid leukemia (25%). With regard to mortality, there were 581 cancer deaths; the age-standardized mortality rate was 72.3 and 52.6 per 100 000 among males and females, respectively. Lung and breast cancer were the commonest causes of cancer death.

Despite some progress in cancer prevention, Libya is lacking of national cancer control plan, like many countries of Eastern Mediterranean Region [2]. In Eastern Libya, some of the major cancers in males were tobacco related. According to World Health Organization data [3], the smoking prevalence among Libyan adults in 2007 was 33% in males and just 0.2% in females. The last Global Youth Tobacco Survey [4] indicated that 4.6% of students aged 13–15 years currently smoked cigarettes and 7.2% used tobacco products other than cigarettes. In the face of smoking behaviors, we contend that smoking control programs are urgently needed. Breast cancer was by far the most frequent and fatal neoplasm among females. We observed a young age at presentation and an predominantly advanced stage at diagnosis, resulting in poor prognosis. Cultural and educational constraints were sometime an obstacle in seeking medical attention. Although the evaluation of systematic breast screening is difficult in Libya, since it would require a strong primary health care infrastructure; however, early detection through educational programs combined with clinical breast examination and/or mammography in high-risk populations could be possible. Colorectal cancer is the second most common cause of cancer incidence and mortality in both sexes and is an emerging problem. Modifiable factors that can increase the risk for colorectal cancer include diet. Using body mass index (BMI) scale as a measure of obesity (BMI > 30 kg/m^2), Belahsen and Rguibi [5] reported an increasing trend of obesity in the years 2002–2010: from 10.74 to 12.67 in males and from 21.13 to 24.87 in females. Thus, the increasing incidence of colorectal cancer may be linked to change in diet and lifestyle. Finally, non-Hodgkin's lymphomas and leukemia were relatively frequent, and in our view, the role of physical and chemical carcinogens could be addressed as a potential risk factor.

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disclosure

None of the authors declare conflicts of interest.

Table 1. Cancer incidence and mortality by gender and site. Eastern Libya, 2004

Cancer site (ICD-10)	Incidence								Mortality							
	No. of new cases		Median age		Crude rate (per 100 000)		ASIR (per 100 000)		No. of deaths		Median age		Crude rate (per 100 000)		ASMR (per 100 000)	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Oral cavity and pharynx (C00–C14)	24	20	52.0	46.5	3.2	2.8	4.8	4.6	7	4	73.0	45.0	0.9	0.6	1.5	1.0
Esophagus (C15)	6	1	63.0	76.0	0.8	0.1	1.4	0.2	3	0	66.0		0.4		0.7	
Stomach (C16)	19	9	63.0	65.0	2.6	1.3	4.0	2.1	17	8	66.0	50.0	2.3	1.1	3.1	1.5
Colon and rectum (C18–C21)	62	59	60.0	55.0	8.4	8.2	13.6	14.9	29	26	61.0	54.5	3.9	3.6	6.2	6.3
Liver (C22)	28	14	66.5	61.0	3.8	1.9	5.9	3.6	26	12	70.5	61.0	3.5	1.7	5.1	3.2
Gall-bladder (C23–C24)	2	16	54.5	57.5	0.3	2.2	0.5	3.9	1	8	52.0	53.5	0.1	1.1	0.3	1.8
Pancreas (C25)	25	18	61.0	64.5	3.4	2.5	5.9	4.6	19	11	60.0	62.0	2.6	1.5	4.7	2.9
Larynx (C32)	21	2	63.0	63.5	2.8	0.3	4.8	0.4	12	0	65.5		1.6		2.6	
Lung (C33–C34)	115	10	65.0	61.5	15.6	1.4	25.8	2.5	94	7	67.0	66.0	12.7	1.0	20.5	1.9
Bones (C40–C41)	8	4	17.5	23.5	1.1	0.6	0.8	0.6	3	2	19.0	48.0	0.4	0.3	0.3	0.5
Soft tissue (C47, C49)	14	11	35.0	30.0	1.9	1.5	2.3	1.8	5	6	55.0	51.0	0.7	0.8	1.1	1.3
Breast (C50)	2	120	54.0	47.5	0.3	16.7	0.4	28.1	2	43	63.0	50.0	0.3	6.0	0.2	10.9
Cervix uteri (C53)	–	19	–	50.0	–	2.6	–	4.9	–	8	–	56.5	–	1.1	–	2.0
Corpus uteri (C54–C55)	–	38	–	60.0	–	5.3	–	10.9	–	10	–	63.0	–	1.4	–	2.9
Ovary (C56)	–	27	–	48.0	–	3.8	–	6.1	–	11	–	57.0	–	1.5	–	2.6
Prostate (C61)	44	–	72.5	–	6.0	–	8.3	–	19	–	73.0	–	2.6	–	3.8	–
Testis (C62)	4	–	37.0	–	0.5	–	0.6	–	1	–	47.0	–	0.1	–	0.3	–
Kidney (C64–C65)	16	7	59.5	51.0	2.2	1.0	3.6	1.4	8	4	66.5	63.5	1.1	0.6	1.6	0.7
Bladder (C67)	59	16	70.0	65.0	8.0	2.2	12.4	4.5	15	4	68.0	70.5	2.0	0.6	3.4	0.9
Brain and CNS (C70–C72)	25	19	49.0	41.0	3.4	2.6	4.8	3.8	22	15	53.0	34.0	3.0	2.1	4.6	2.6
Thyroid (C73)	6	21	46.0	48.0	0.8	2.9	1.2	4.0	1	5	46.0	81.0	0.1	0.7	0.3	0.8
Hodgkin's lymphoma (C81)	15	11	27.0	26.0	2.0	1.5	1.9	1.4	3	5	59.0	27.0	0.4	0.7	0.7	0.7
Non-Hodgkin's lymphoma (C82–C85, C96)	34	25	48.0	51.0	4.6	3.5	5.9	5.5	16	11	37.0	51.0	2.2	1.5	2.7	2.1
Leukemia (C91–C95)	31	32	51.0	32.0	4.2	4.5	5.7	5.5	27	14	58.0	34.0	3.7	1.9	4.7	2.1
Other and unspecified	49	52	65.0	60.5	6.6	7.2	9.3	11.3	20	17	65.5	61.0	2.7	2.4	3.8	3.8
All sites	609	551	61.0	52.0	82.4	76.7	124.2	126.6	350	231	63.0	55.0	47.4	32.2	72.3	52.6

–, Not applicable.

ICD, International Classification of Diseases; ASIR, age-standardized incidence rate (World Population); ASMR, age-standardized mortality rate (World Population); CNS, central nervous system.

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