

Short reports

Mortality from malignant neoplasms in Crete, 1992-1993

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This first international report briefly summarises the causes of cancer mortality from the first two years (1992-1993) of the population based Cancer Registry of Crete (CRC), Greece. In the absence of a national or local health information network, a peripatetic approach to data collection was used. All relevant information about cancer patients was abstracted from multiple sources: records and departments, including pathology laboratories, of 11 public hospitals and all private clinics; Health Insurance Funds and Public Health Division Offices of the Ministry of Health; and Death Registries. Quality control ensured missing information was retrieved, demographic details were checked, logical tests and sample cross checks were undertaken.

It was thought desirable to accumulate data over a few years before reporting results, for two main reasons: to allow all checks on data reliability to be implemented, and to have at least two consecutive years accrued data to avoid, as much as possible, random fluctuations. Cancer incidence is not discussed here; it is generally recommended that several years' data are necessary before reporting incidence figures.¹

Conditions for an epidemiological study in cancer mortality are good. Crete has a stable and homogeneous population of 536 980 (census 1991), without racial or religious sub-

divisions, mainly rural or semirural, primarily agricultural but also business (mainly tourism), a high consumption of cigarettes and alcohol among men,² and a diet rich in vegetables, fruits, and olive oil.³

Results

Age standardised mortality rates (ASMRs) per 100 000 population, and for each sex, were standardised using the European Standard Population.⁴ For more common neoplasms, truncated ASMRs (ages 35-75) and cumulative mortality rates (CMRs) (ages 0-75) were calculated.

The CRC recorded 1870 deaths from malignant neoplasms in 1992 and 1993: 1191 men (63.7%) and 679 women (36.3%). Using 1991 census data, the ASMR was 140 deaths per 100 000 person years (for residents of Crete): 189 male deaths (95% confidence intervals (95% CI): 127, 251) and 98 female deaths (95% CI: 67, 129) per 100 000 person years. The corresponding truncated ASMRs for ages 35-75 were 270 (95% CI: 56, 484) and 146 (95% CI: 34, 258). CMRs for ages 0-75 were 12.8% (95% CI: 11.6, 14.0) for men and 7.1% (95% CI: 6.3, 7.9) for women.

Age distributions for the most common malignant neoplasms causing death were roughly symmetric about the median, but age ranges differed widely between types of neoplasm. In men, the highest ages at death were for neoplasms of prostate (median 79.5 years), followed by neoplasms of stomach (77.5), and colon/rectum (77). Neoplasms causing death in younger men were multiple myelomas (median 64 years), brain and lung cancers (66.5 and 68.4). For women, deaths from cancer of the liver, bladder, and pancreas occurred later in life (medians 78, 77.5, and 75). Leukaemias affected slightly younger women to a greater extent (median 58).

Table 1 presents crude death rates (CDRs), ASMRs, relative frequencies (proportions over total number of deaths caused by cancer), truncated ASMRs (ages 35-75), and CMRs (ages 0-75) for the most common malignant neoplasms in men and women for 1992/93. For men, these neoplasms accounted for 71% of all male cancer deaths; 33.8% resulted from lung cancer. For women, these neoplasms accounted for 58.3% of all female cancer deaths; 20.3% resulted from breast cancer.

Table 1 Death rates (per 100 000 person years) and relative frequencies for the eight most common neoplasms in each sex in Crete 1992/93

Rank	Site	CDR	ASMR	Relative frequency	TASMR	CMR (%)
Men						
1	Lung	74.18	66.53	33.75	111.04	5.8
2	Colon	15.69	12.43	7.14	13.44	0.75
3	Prostate	15.50	11.74	7.05	7.98	0.47
4	Bladder	14.58	12.55	6.63	16.86	0.90
5	Liver	13.10	10.74	5.96	14.15	0.81
6	Stomach	9.04	7.05	4.11	7.21	0.40
7	Leukaemia	7.38	6.27	3.36	8.04	0.47
8	Pancreas	5.72	5.08	2.60	7.99	0.38
Women						
1	Breast	25.64	21.66	20.32	35.61	1.73
2	Colon	13.94	10.05	11.05	14.23	0.76
3	Lung	8.73	6.92	6.92	10.58	0.49
4	Stomach	6.13	4.78	4.86	7.29	0.35
5	Liver	5.95	3.96	4.71	4.75	0.28
6	Brain	5.39	4.27	4.27	5.68	0.34
7	Ovary	3.90	3.43	3.09	6.75	0.33
8	Uterus	3.90	3.18	3.09	5.01	0.23

CDR=Crude death rate, ASMR=age standardised mortality rate (using the European population), TASMR=truncated ASMR (35-75 y), CMR=cumulative mortality rate (0-75 y).

Discussion

CRC plans to report periodically; the first two years' results provide a baseline for future trends of cancer mortality in Crete. Comparing Crete with Greece,⁵ ASMRs for men and women with lung (66.5 and 6.9) and stomach (7 and 4.8) neoplasms on Crete (1992/93) were lower than for the total Greek population (1990) (73.5 and 10.7, and 14.7 and 7.5, respectively). ASMR for neoplasm of the prostate was slightly lower on Crete (11.7) than Greece (13.8). In contrast, ASMRs for men and women with neoplasms of the liver (10.7 and 4) and the colon/rectum (16 and 10.8) were higher on Crete than Greece (0.6 and 0.1, and 11 and 8.6, respectively). Similarly, for women with neoplasms of the breast and uterus, ASMRs for Crete (21.7 and 6.8) were slightly higher than for Greece (20.9 and 5.7).

ASMRs for most neoplasms on Crete were low compared with many Mediterranean countries,⁵ and were the lowest for neoplasms of colon/rectum and stomach for both sexes, and for prostate neoplasm for men and breast neoplasm for women. By contrast, ASMR for neoplasms of the liver in both sexes was high, comparable only with Italy and France (men

only). ASMR for men with neoplasms of bladder was also high, similar to Italy, Malta, and Spain.

A report on possible causes of differences in ASMRs for Crete compared with other Mediterranean countries⁶ is available following a Workshop "Cancer Epidemiology in the Mediterranean", convened in Fodele, Crete in September 1996.

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