



Epidemiology: the foundation of cancer prevention, diagnostics and therapeutics

According to WHO, cancer represents a leading cause of death worldwide, accounting for 7.6 million deaths (around 13% of all deaths) in 2008. About 30% of cancer deaths are due to the following behavioral and dietary risks: high body mass index (BMI), low fruit and vegetable intake, lack of physical activity, tobacco and alcohol use. Currently, innovative cancer treatments and therapies are available, but it is important to consider that the burden of cancer can be reduced by implementing evidence-based strategies for cancer prevention, early detection of cancer and management of patients affected by the disease. Considering that the milestone for cancer prevention and treatment is to create and keep a healthy and strong immune system, we should fight in order to reduce cancer by increasing knowledge about the causes of cancer, in particular for the avoidable ones, including: tobacco use; being overweight or obese; low fruit and vegetable intake; lack of physical activity; alcohol use; HPV-infection; urban air pollution and indoor smoke from household use of solid fuels, exposure to sunlight.

The thematic part of the present issue of the Italian Journal of Public Health addresses different topics within the framework of cancer epidemiology, prevention and therapy.

The article from *Cascio et al.* reports the epidemiology of cutaneous malignant melanoma (CMM) in the Province of Palermo, Sicily, Italy. Data come from the Cancer Registry of Palermo during the period 2003-2005. Sixty-four percent of the reported CCM case are from subjects living in Palermo, with an incidence rate (EU) of 7.2 over 100,000 in males and 6.1 in females. Incidence rates are higher in Palermo compared to the provinces, which might suggest a different pattern of risk factors in the two geographic areas, or more likely an underreporting or underdiagnosis of CMM in the surrounding province. By analysing the survival rates from CMM, earlier stages and younger ages showed better prognosis. No differences in stage at diagnosis was observed between residents in Palermo and of its Province, which might suggest for no differences in the access to health care facilities between Palermo and the other Sicilian provinces.

The report from *de Portu et al.* is the first in the literature reporting the epidemiology, outcomes, and analysis of the economic burden of multiple myeloma (MM) in Italy. Analysis was conducted in a North-eastern Italian region, the Friuli Venezia Giulia region, with 1.2 million inhabitants. The overall incidence of MM derived from hospital dismissing charges during the period 2001-2005 was 8.6/100,000 person-years. Around 70% of MM cases died during the study period, with an increased risk of death among people older than 70 years old. The total hospitalization costs per patient were estimated to be 78,020 Euros for MM aged ≥ 70 years old and 23,096 Euro for those <70 years old. Multiple myeloma imposes a significant epidemiological and economic burden on the healthcare system in Italy, and attention should be paid towards this specific form of cancer.

Moving from epidemiology to prevention, the paper of *Rongioletti et al.* reports the results of a screening campaign for the prevention of skin cancer performed among healthcare professionals of an Italian University Hospital in Genoa, Liguria. The aims were to evaluate the adherence of the screening procedure among more 'conscious' people, and to detect at an early stage potentially dangerous skin lesions. The screening campaign was advertised through the Intranet of the Hospital, with subjects undergoing a full-body skin



examination integrated by handheld dermoscope. Even though participation rate was overall low, 2% of invited people actually had pre-cancerous lesions that were immediately treated. Future studies are required to clarify, however, the effectiveness and cost-effectiveness of secondary prevention in detect pre-cancerous skin lesions through body skin examination.

The manuscript of *Antonelli et al.* addresses the issue of the actual application of the diagnostic and therapeutic guidelines for colon cancer in Turin, Italy. The study aims to compare the current pathways undertaken by patients with colon cancer with the prescribed guidelines. The analysis covered 205,000 patients who accessed one Italian Local Health Agency during the year 2007. Results show that 11,2% of colon cancer patients actually underwent the sequence of exams recommended by the official guidelines, with 54,4% of them only partly following the sequence of recommended exams. These results suggest an inefficient pathway of the prevention process for colorectal cancer treatment, so authors suggest that educational interventions together with good practice dissemination programs could improve the situation over the long term.

Lastly, two manuscripts addresses different methodological issues related to cancer diseases. The article of *Scalone et al.* shows the development and validation of the Italian version of the EQ-5D-Y tool used to evaluate the quality of life in children and adolescents. In their study authors aimed to adapt the EQ-5D instrument, which is widely used and recommended to describe and evaluate health across many different adult populations into the EQ-5D-Y (youth) for children and adolescents. The Italian version of the EQ-5D-Y was administered to 415 valid children and adolescents from a general population, and to 25 paediatric patients diagnosed with Acute Lymphoblastic Leukaemia (ALL). Results show that less than 1% refused to complete the tool. ALL patients reported more difficulties in four of the five domains of the descriptive system compared to adolescents, and on average a lower Visual Analogue Scale score. Future studies should further investigate and optimize its applicability to clinical research and economic evaluations within the health system.

Lastly, the paper of *Pourboseingholi et al.* addressed the issue of misclassification in the death events related to oesophageal cancer (EC) in Iran. As such, the aim of their study was to estimate the EC mortality for Iranian population, using a Bayesian approach in order to revise the misclassification. Authors analyzed National death Statistic reported by the Iranian Ministry of Health and Medical Education from 1995 to 2004. The Bayesian approach to correct and account for misclassification effects in Poisson count regression was adopted to estimate the mortality rate of EC in age and sex group. Our findings suggested a substantial undercount of EC mortality in Iranian population, so that the use of the Bayesian approach should be encouraged to take this into account.

The thematic issue contains also a commentary from *Galasso et al.*, where they point out at the potential challenges that the technological advances offer to cancer registries. Authors comment on the extent to which in Italy cancer registries are underused, if we consider the tremendous amount of valuable information they collect. As such, authors invite those who manage cancer registry to attempt catching up all the opportunities that technological progress makes available.

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