

effectiveness of treatments. The use of ionising radiation in radiology, however, is not without risks for health professionals directly involved in radiation work.

**Methods** The study was cross-sectional and prospective, including medical imaging technicians and engineers selected radiology departments, regularly hired and assigned to radiation work. Data were reported on a self-administered questionnaire.

**Results** Five hospitals were selected with 59 participants, including 6 (9%) women, 54 (92%) senior technicians and 5 (8%) engineers. The cumulative age group of 30–50 years constituted 95% of the participants; 16 (27%) participants had been exposed for 5–10 years, 2 (4%) had been exposed for more than 20 years; The risk of cancer (96.6%), radiodermatitis (31%) and infertility (71.4%) were recognised by the participants. The main PPEs identified by the participants as radio-protectors were the lead apron (96.6%), the leaded glove (68.6%), the shells (31%), the anti-RX goggles (57.8%); 33.2% of the participants wore them regularly, 60.6% were irregular, 6.2% did not wear them. PPE was available for 37.8% of the presentations. The interest of the dosimeter was known to 94.4% of the participants. Apparatus was revised in 19% of cases; 91% of participants received IR training and were qualified to work under radiation. Pictograms existed in 40% of hospitals, light signals in 80%; 58.2% of the presentations knew their meaning.

**Discussion** The low availability and irregular wearing of PPE, and the ignorance of hazard indicators are more likely to expose them to IR.

**Conclusion** Strengthen protection measures through the availability of PPE and training

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#### OCCUPATIONAL SKIN CANCER IN OUTDOOR WORKERS IN ITALY: EXPECTED NUMBER VS CASES RECOGNISED BY THE ITALIAN NATIONAL COMPENSATION AUTHORITY (INAIL)

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**Introduction** Solar Ultraviolet Radiation (UV) is one of the main risk factors for Non Melanoma Skin Cancer (NMSC) and Malignant Melanoma (MM). In Italy, only considering agriculture, fishery and construction sectors, the approximate number of workers exposed to solar UV (Outdoor workers – OW-) is 2 million (1.6 million males, 4 00 000 females).

Our aim is to compare the number of skin cancers (SCs) expected in OW to the number recognised by the Italian National Compensation Authority (INAIL).

**Methods** We collected data of Italian National Cancer Registries and the INAIL database of occupational diseases, including cancer, respectively available on the websites [www.registri-tumori.it](http://www.registri-tumori.it) and [www.bancadaticsa.inail.it](http://www.bancadaticsa.inail.it)

**Results** In Italy the yearly incidence of MM is 14,2 per 1 00 000 in males and 13 per 1 00 000 in females, that of NMSC 119.4 per 1 00 000 in males and 90.7 per 1 00 000 in females.

Applying these incidence rates to the Italian OW number, the expected SCs per year are approximately 2561 (279 MMs and 2282 NMSCs). INAIL recognised as occupational disease n. 246 cases (20% MM vs 80% NMSCs) in the last 5 years, i.e. less than 50 cases per year.

**Discussion and conclusions** Our results show that, in Italy, the National Compensation Authority recognises less than the 2% of the cases expected to occur in OW each year: 50 vs 2500. Main limitations of these data are that the incidence rates applied to OWs were not standardised, that the number of solar UV related SCs calculated is possibly under-estimated, considering that, e.g., not all OW groups were included, and that the data from cancer registries were quite outdated while the SCs incidence is increasing.

In conclusion, our data suggest a large under-estimation of occupational SCs in Italy, and that a better recognition of these diseases in OW is a relevant, and urgent, problem.

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#### GLIOMAS INCIDENCE IN ITALY

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**Introduction** The International Agency for Research on Cancer has classified Radio Frequency in the Group 2B, ‘possibly carcinogenic to humans’, based on an association found between exposure related to mobile phones use and risk of gliomas and acoustic neuromas, even if this classification was discussed for some inconsistencies. Considering the large increase in mobile phone users from the ‘80 s, an increase in incidence of these tumours should be expected. The aim of this work is to follow the incidence of gliomas in Italy.

**Methods** The national incidence of central nervous system (CNS) cancers and that of gliomas from 2006 was obtained from the Italian Cancer Registries

**Result** Considering CNS cancers, in the period 1996–2009 the yearly age-standardised incidence per 1 00 000 has decreased from 10.8 to 9.8 in males, and from 8.0 to 7.0 in females. The incidence of gliomas, available for years 2006–2009 only, shows a slight increase from 5.7 to 6.3 in males, while is substantially stable (around 4) in females.

**Discussion and conclusion** Since the late ‘90 s, mobile phone use in Italy has largely increased: according to World Bank data, rose from 11.3 mobile phones per 100 Italians in 1996, to 107.7 in 2004 (exceeding the number of inhabitants), and 142.1 in 2015. If RF exposure related to mobile phones is associated with gliomas, considering a possible latency of 10–20 years an increase of the incidence of this tumours should be expected, at least from the second half of the 2000s

Considering all CNS tumours, during the period 1996–2009 data show a decreasing trend in Italy. For glioma, currently available standardised incidence rates, covering only the period 2006–2009, suggest a slight increase, but limited to males. Data available at this moment do not adequately support any firm conclusion on the trends of these tumours in Italy.