Objectives: Malignant mesothelioma is an important health problem because of environmental and occupational asbestos and erionite exposure in Turkey. However, there is no sufficient data about surveillance of mesothelioma in Turkey. Between 2012 and 2015, Turkey National Mesothelioma Surveillance Program and Turkey Asbestos Control Strategic Plan (TAKSAP) were prepared with participation of hospitals from 30 provinces, where mesothelioma is endemic, and support of Turkey Public Health Agency. The aim of the program was to determine incidence of mesothelioma for Turkey, determine risk of cities regarding environmental asbestos exposure and develop strategies to solution the problem. Methods: In hospitals from 30 provinces, the patients diagnosed with “mesothelioma” under the code of C45.0-C45.9 between 2008 and 2012 were identified with approbation. The cases were checked in the Central Register System too. In this study, “from case to the field method” has been used. After obtaining the final records of the cases with mesothelioma, the cases born in villages/rural areas were determined; the villages where these cases were born were identified as “villages required to be examined in terms of asbestos exposure risk”. The soil samples from these villages were examined in the TUBITAK Marmara Research Centre Material Institute for mineral analysis with x-rD (x-ray diffractometer). Direct Standardized Average Annual Mesothelioma Incidence Rates (AMIRs) were calculated from WHO standard population, 2002. Estimates the population exposed to standardized incidence ratios were calculated by multiplying the standard population rates with the ratio of expected values to the observed values, and standard error was calculated as the inverse fraction of the square root of observed value (1 / √ observed value).

Results: The numbers of mesothelioma cases confirmed were 5,617 according to TAKSAP within 5 years. The crude incidence rates of mesothelioma were 1.53/100,000 for all cases, 1.75/100,000 for men and 1.30/100,000 for women. AMIRs were 3.79/100,000 for all cases, 2.28/100,000 for men, and 2.94/100,000 for women. The crude incidence rates of mesothelioma were 73.42/100,000 for all cases, 79.94/100,000 for men and 66.92/100,000 for women in villages where asbestos exposure was continuing. The crude incidence rates of mesothelioma were 26.94/100,000 for all cases, 32.98/100,000 for men and, 20.87/100,000 for women in villages where asbestos exposure was stopped. The 98.3% of mesothelioma cases were from 30 provinces where TAPSAP was organized. The first four provinces were Elazığ (RR 34.74), Eskişehir (25.58), Diyarbakır (14.08), Tokat (8.01), when provinces were sorted in terms of mesothelioma risk. The first four provinces were Elazığ (RR 18.21), Eskişehir (9.07), Diyarbakır (8.37) and, Tunceli (7.60), when RR were sorted according to birth villages of cases. 158,068 people live in the 397 villages where asbestos exposure is continuing. 286,510 people live in the 174 villages where there was asbestos exposure in the past. It is expected that 17,961 new cases of mesothelioma will emerge among exposed population between 2013 and 2033.

Conclusion: We determined that mesothelioma due to environmental and occupational asbestos exposure in Turkey is a more serious problem than previously anticipated.

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