Introduction Prostate cancer is the most common cancer among men; however, little is known about its aetiology. Several studies have indicated that firefighters have an increased risk, but the results have not been consistent. Firefighters are exposed to many harmful substances in their work, some of which are carcinogenic. Two reviews with meta-analyses, including studies through 2003 and 2007, respectively, found that firefighters had approximately 30% elevated risk of prostate cancer. Our objective was to perform an updated review and meta-analyses of studies published after 2007.

Methods We performed a literature review of original articles of prostate cancer in firefighters, published between January 2008 and May 2017. For the meta-analysis, we selected relevant longitudinal studies and calculated summary risk ratios (sumRRs).

Result Six studies, published 2008–2016, with a total of 5097 prostate cancer cases, were selected for the analysis; four were cohort studies and two case-control. Eight risk estimates were included in the meta-analysis, seven incidence based, one mortality based. All showed weak to moderate positive associations between firefighting and prostate cancer, although some not statistically significant. Meta-analysis of five incidence based risk estimates from cohort studies gave sumRR 1.20 (95% CI: 1.05 to 1.36). Results based on the two case-control incidence studies gave sumRR 1.24 (0.90–1.70). When all eight risk estimates were included in the meta-analysis, sumRR was 1.19 (1.08–1.32). Further analyses, however, showed significant heterogeneity between the studies.

Discussion The results showed that firefighters had approximately 20% increased risk of prostate cancer, somewhat lower than the previous two meta-analyses found. However, occupational title may be an inaccurate measure of carcinogenic exposures and thus lead to underestimation of the cancer risk. On the other hand, reasons other than a causal relationship, particularly surveillance bias, caused by regular health examinations among firefighters, cannot be excluded.

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508 ANNUAL CHECK-UP: A RELEVANT TOOL FOR WORKER’S WELLBEING AND WORKPLACE HEALTH PROMOTION
Abstracts

Methods Annual check-ups done every year from 2012 to 2016 in two medium-sized enterprises allow me to conduct a retrospective study on records of more than 300 workers every year. Then I compare the outcomes between the workers of the same enterprise and between the workers of the two companies in terms of prevalence, and of types of illnesses and occupational risk factors related to them.

Results and discussion Annual check-up is legal prescription for every enterprise in Senegal and more than 90% workers undergo this medical survey done by an occupational physician. The company profile is established and allow us to see interesting differences and or similarities.

Conclusion Annual check-up is a powerful tool and a good opportunity for both occupational hazards prevention and health promotion for the wellbeing of workers and for the performance of enterprises.

OCCUPATIONAL METHANOL EXPOSURE IS NOT RELATED TO CANCER MORTALITY: 12-YEAR FOLLOW-UP STUDY FOR TWENTY-FIVE THOUSAND MALE WORKERS IN KOREA

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Introduction An International Agency for Research on Cancer (IARC) Advisory Group recommended priorities for IARC Monographs during 2015–2019 in Lyon on April, 2014. They recommended methanol as medium priority of review. The background was three animal carcinogenicity studies. However, there were no available studies of cancer in humans and has not been previously evaluated by IARC. So we analysed the cancer mortality of methanol exposed male workers in Korea.

Methods A cohort was comprised of 25,218 methanol workers working between January 1, 2000, and December 31, 2004. These cohort members were matched with the mortality data of the Korean National Statistical Office to follow-up for cancer mortality between 2000 and 2011. Standardised Mortality Ratios (SMRs) of methanol exposed workers with reference to Korean men were calculated. Also controlling age, calendar year and other carcinogen exposure including hepatitis B and C, the Adjusted Hazard Ratios (AHRs) of workers categorised by the 2 groups of methanol exposure level (10% to 50%, over 50% of TLV) with reference to workers with less than 10% were calculated.

Result There were no significantly increased SMRs. But, significantly decreased SMRs were observed overall cancer (SMR = 0.70, 95% CI: 0.58 to 0.84) and liver cancer (SMR = 0.68, 95% CI: 0.47 to 0.94). There were no significantly increased or decreased AHRs of cancer mortalities in workers exposed to methanol with 10%–50% of TLV and over 50% of TLV compared to workers with less than 10% of TLV.

Discussion In this study short follow-up periods and healthy worker effect (HWE) may hamper observation for increasing cancer mortality of methanol exposed workers comparing to that of Korean male. However, based on no increased AHRs of workers with relatively higher level of methanol exposure, methanol might not be related to cancer development considering metabolic pathway different from ethanol. Continuous follow-up to overcome HWE and cancer morbidity study are needed to confirm this study result.

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