

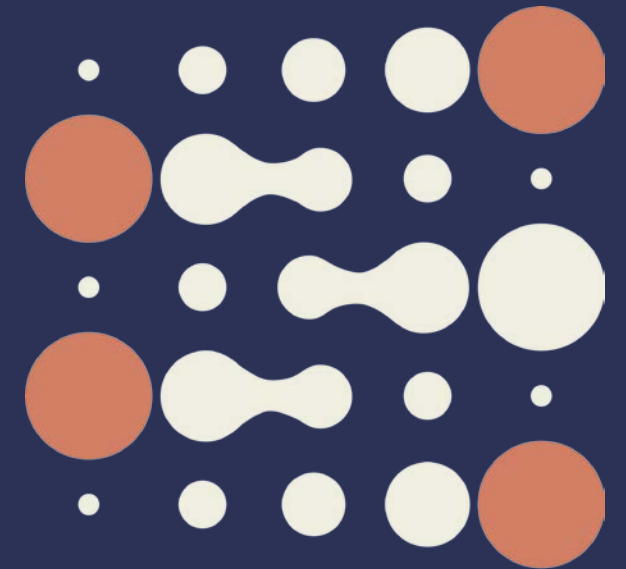
Occupational bladder cancer in Iran

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International Agency
for Research on Cancer



Introduction/Background/Motivation



- ~20% bladder cancer

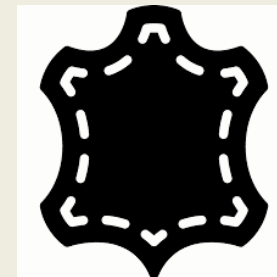
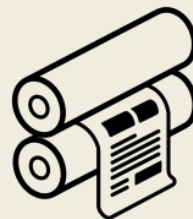


- Industrialized country in the Middle East



- Lack of previous estimates of occupational cancer rates in Iran

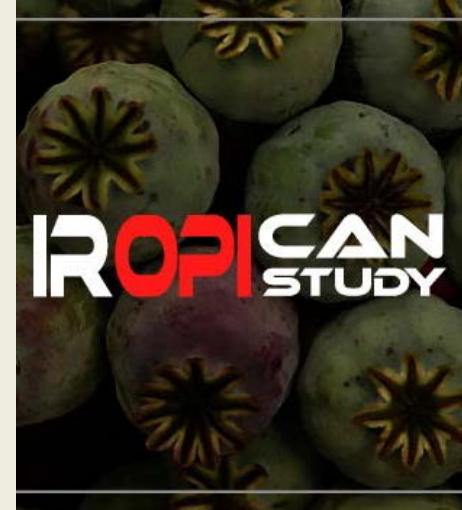
- Available data from the nationwide epi study with a good quality data on occupational history (IROPICAN study)
- To investigate the risk of bladder cancer in relation to occupations



A nationwide case-control study from 10 provinces across Iran

Cases: Primary incident cases (624), histologically confirmed of bladder cancer (C67)

Controls: Recruited in same hospital, healthy hospital visitors, frequency-matched (age \pm 5 years), sex, and place of residence



Data collection

Demographic/ history of individual substance use e.g., tobacco smoking, opium consumption

Occupational data

Up to 3 job history per individual (>1 year)

- Job title/ task/industry title
- Age of start and finish of each jobs
- Duration (hours/day, days/week, and months/year)

Statistical consideration: Unconditional logistic regression, adjusted for smoking and opium consumption



Risk of bladder cancer associated with ever worked in specific occupations

ISCO-68 selected occupations	Ever worked (Cases/Controls)	Adjusted model OR (95% CI)
Textile industry workers	12/ 49	1.0 (0.5, 2.0)
Painters	3/31	0.4 (0.1, 1.4)
Construction workers	90/ 316	1.1 (0.8, 1.5)
Road drivers	54/ 188	1.1 (0.8, 1.5)
Heavy vehicles drivers	26/ 69	1.2 (0.7, 2.1)
Welders	16/ 53	1.1 (0.6, 2.2)
Plumber	3/21	0.4 (0.1, 1.8)
Petroleum industry workers	4/ 13	2.0 (0.6, 6.7)
Rubber industry workers	3/ 17	0.8 (0.2, 3.1)
Hairdresser/ barbers	5/32	0.5 (0.2, 1.5)
Metal processors	5/4	5.8 (1.4, 25.2)
Leather goods makers	4/7	0.9 (0.2, 3.5)
Mechanics	18/55	1.0 (0.5, 2.0)
Electronic workers	10/40	1.1 (0.5, 2.5)
Glass industry workers	7/15	1.7 (0.6, 4.9)
Workers exposed to aromatic amines	21/48	2.1 (1.2, 3.8)

- Fully adjusted model, is adjusted for baseline (age, place of residence) plus tobacco smoking, and opium consumption

Discussion and Conclusions

- Occupational cancer epidemiology new topic in Iran with Limited consideration on major industries e.g., petroleum industry
- The finding The role of opium consumption as a confounding factor
- Next step
 - Systematically collect occupational data in ongoing epidemiological studies
 - Develop a new tool to measure the exposure within epi studies

Related publications

Hosseini B, ...Schüz J, Olsson A. **Bladder cancer risk in relation to occupations held in a nationwide case-control study in Iran.** Int J Cancer 2023.

Hosseini, B.;Schüz, J.; Olsson, A. **Occupational Exposure to Carcinogens and Occupational Epidemiological Cancer Studies in Iran: A Review.** Cancers 2021, 13, 3581

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Key take-home messages

- Metalworkers and workers exposed to aromatic amines in Iran have also an increased risk of occupational bladder cancer.
- Opium consumption varies across economical activities, therefore should be considered as a confounding factor in occupational epidemiological studies.
- Interdisciplinary collaboration is essential for the restriction/reduction of occupational exposure to some chemicals, e.g., aromatic amines.
- Initiate large-scale prospective epidemiological studies in key industries with systematic exposure assessment to inform cancer control in Iran and efforts at the global level, as data from emerging economies are lacking worldwide.