

Disability-Adjusted Life Years for Occupational Cancer Diseases in 2010–2020:

A data from regional Register of Occupational Diseases in Federation Bosnia and Herzegovina

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Introduction

This study aims to estimate the regional occupational cancer burden in Federation Bosnia and Herzegovina from 2010–2020 using the disability-adjusted life years data (DALYs) as a health measure.

Table 1 Demographics of occupational cancer workers

	No	Mean	SD*
Duration of occupational exposure to carcinogen/s (years)	50	21,960	8,708
Length of service (years)	50	26,040	8,845
Age	50	50,880	7,808
Workability loss	48		
Death	26		

*standard deviation

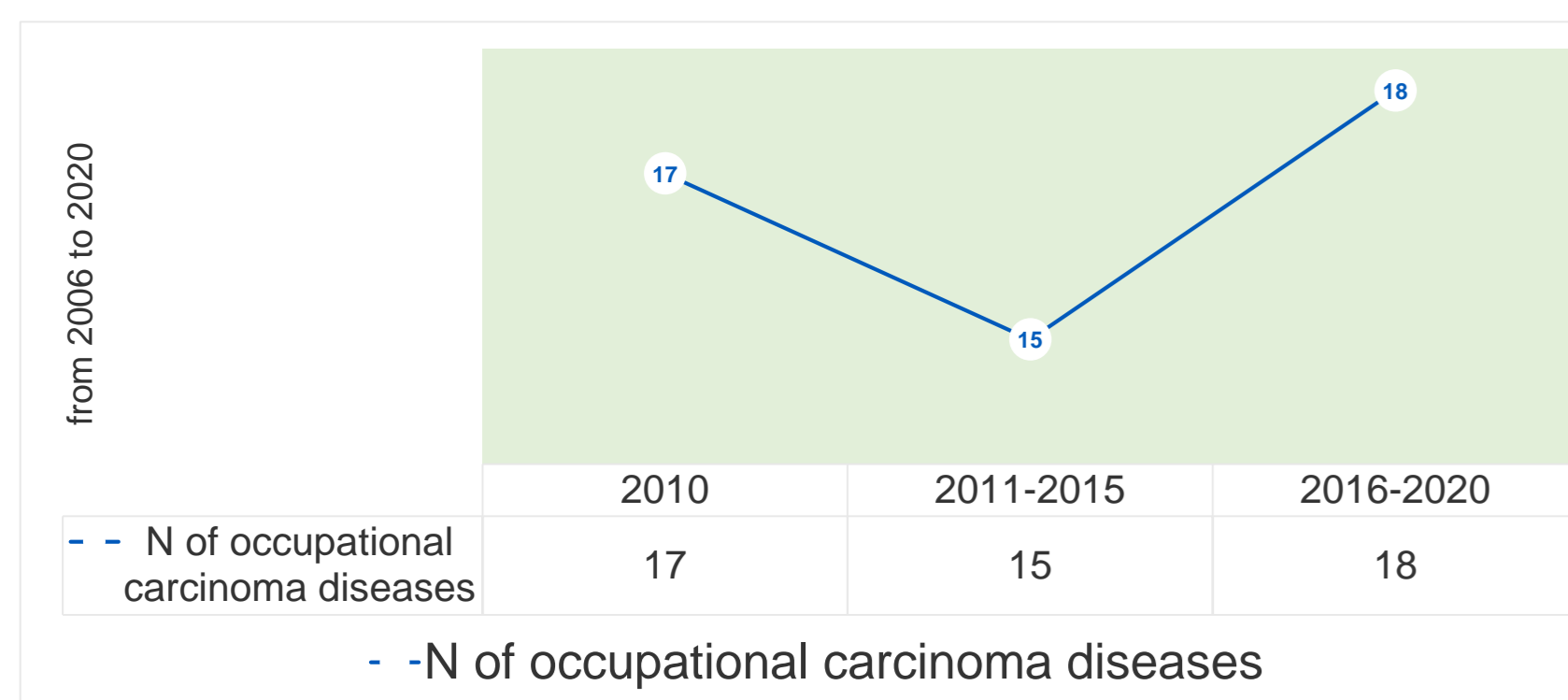


Figure 1 The number of cases of Occupational carcinoma diseases from 2006 to 2020.

Methods

Data from 50 carcinomas of workers out 135 (37%) of all verified occupational diseases (ODs) from the regional Register of ODS in Federation Bosnia and Herzegovina from 2010-2020. The years of life lost (YLL) were estimated with the remaining years lost of standardized expected years of life and mortality number incidence. The number of years lived with disability spent time in states of reduced health (YLD) do the multiplication of the numbers of incidence cases, duration, and disability weight. Disability-adjusted life years mean the years lived with disability (DALYs) were estimated using incidence data. The DALYs calculate as the arithmetic addition of YLL and YLD.

Table 2 Disability-Adjusted Life Years for Occupational Cancer Diseases in 2010–2020

Occupational cancer/ neoplasm diseases	No	Incidence rate	DW	D years	YLL	YLD	DALY
Esophageal cancer	4	800	2,904	5	197,3	11,616	178,916
Stomach cancer	4	800	1,176	8	173,5	37,632	211,132
Liver carcinoma	2	400	0,588	4	88,8	4,704	93,504
Carcinoma laringis	9	1800	3,388	17	325,1	518,364	843,464
Lung cancer/ neoplasm	8	1600	3,872	11	307,8	340,736	648,536
Melanoma/ skin cancer	4	800	1,176	3	163,8	14,112	177,912
Breast carcinoma	3	600	0,882	3	128,4	7,938	136,338
Ovary carcinoma	1	200	0,484	2	54,3	0,968	55,268
Prostate carcinoma	1	200	0,294	3	30,3	0,882	31,182
Bladder carcinoma	1	200	0,484	2	30,3	0,968	31,268
Central nervous system	2	400	1,936	2	93,7	7,744	101,444
Leucemia, and others	4	800	1,176	9	187,6	42,336	229,936
Carcinoma renale	3	600	1,452	7	143,2	30,492	173,692
Other malignant tumors	4	800	0,588	6	188,1	14,112	202,212
All sites	50	10000	20,4	82	695,5	1032,594	1728,094

Results

In the study period, 26 deaths from all occupational cancers founded, and 23 cancer-attributable deaths were in male workers (88%). The prevalent malignant tumors were from the lower respiratory tract (16%), larynx (14%), and esophagus 12%. The most frequent cancers among female workers were breast, kidney, and vesicae urinary. For all malignant tumors, DALY estimated 5795,5. DALYs were higher among males than in females (1718,5 vs.1106,3). The computed YLD was lower among female individuals (155.6 vs. 568.6).

Conclusion

The present study provides the need to expand cancer prevention at the workplace, stop exposure to coke ovens emissions, RTG ionizing radiation, benzene or its homologs, and provide cancer screening and awareness programs.