

Hormozgan University of Medical Sciences

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Bandar Abbas



Cancer Institute
پژوهشکده سرطان

Water pipe Smoking and Risk of Cancer: A Multi-Center Case-Control Study in Iran



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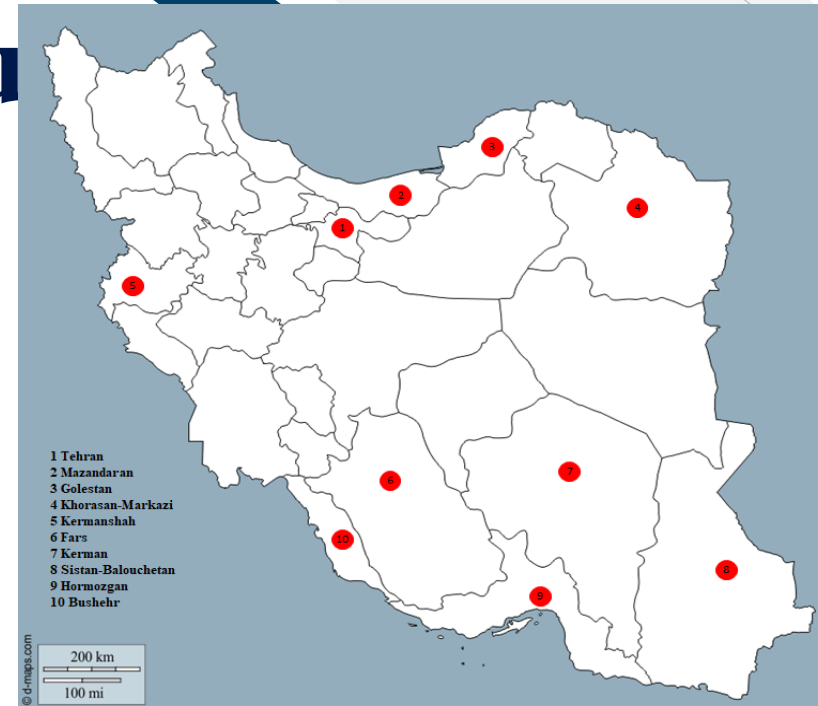


Iran Opium Cancer Study (IROPICAN): A Multicenter Case-Control Study

IROPICAN Study

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- Large Sample Size, Multicenter Study
- Dose-response
- Duration
- Type
- Rout of use
- Geographical distribution
- Interaction with smoking and other risk factors



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IROPICAN Study

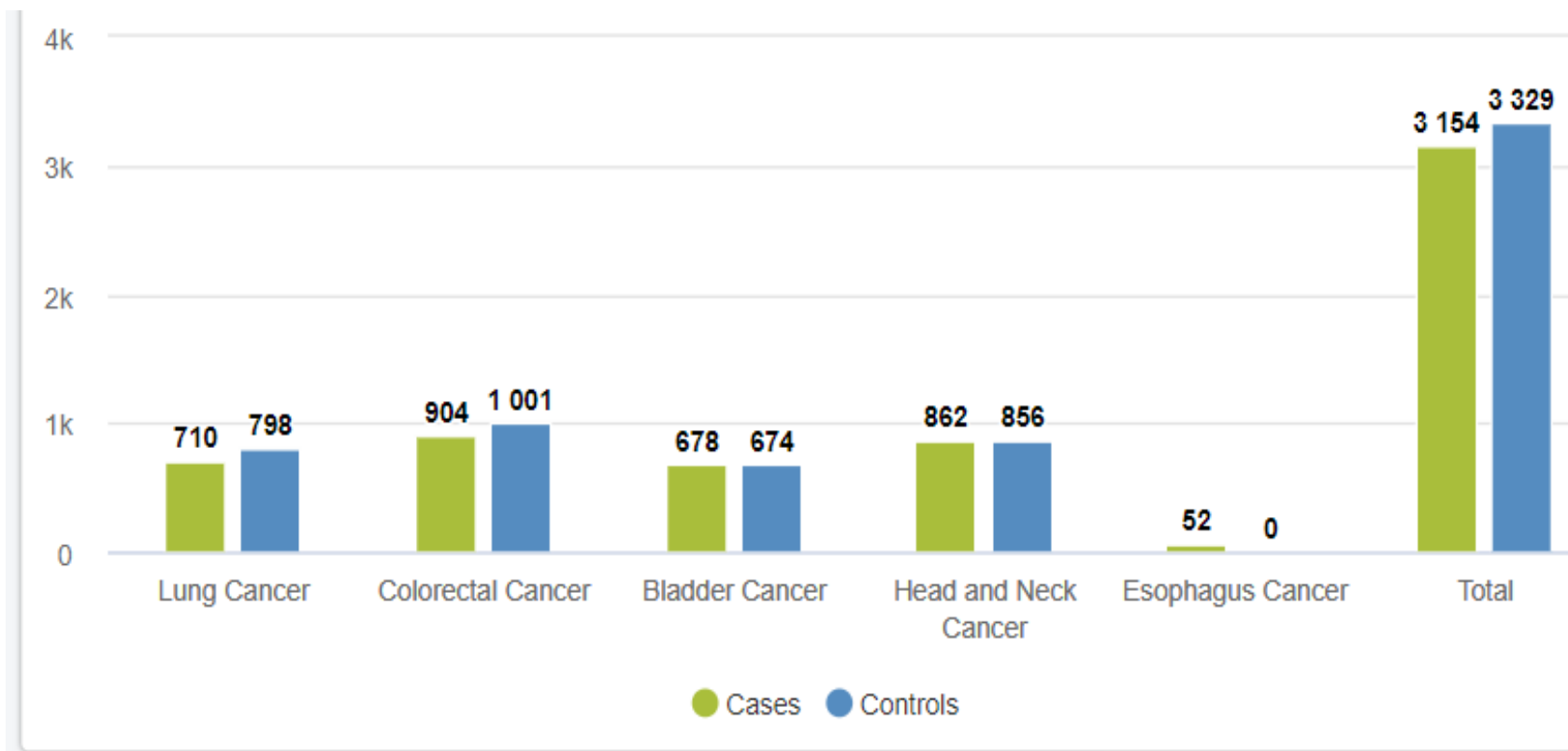
پرسشنامه اطلاعات کلی و دموگرافیک



سوالات کلی و شناسایی	
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نام پرسشگر :	کد پرسشگر :
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تاریخ تکمیل پرسشنامه :	وضعیت :
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وضعیت مصاحبه شونده (گروه شاهد) :	علت مراجعه :
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کد ICDO مربوط به سرطان مربوطه را مشخص کنید (توسط مسؤل طرح در استان تکمیل شود) :	تاریخ تشخیص :
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سوالات دموگرافیک	
نام خانوادگی :	نام شرکت کننده :
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شهر :	آدرس :
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IRIOICAN Data

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Waterpipe prevalence in Iran

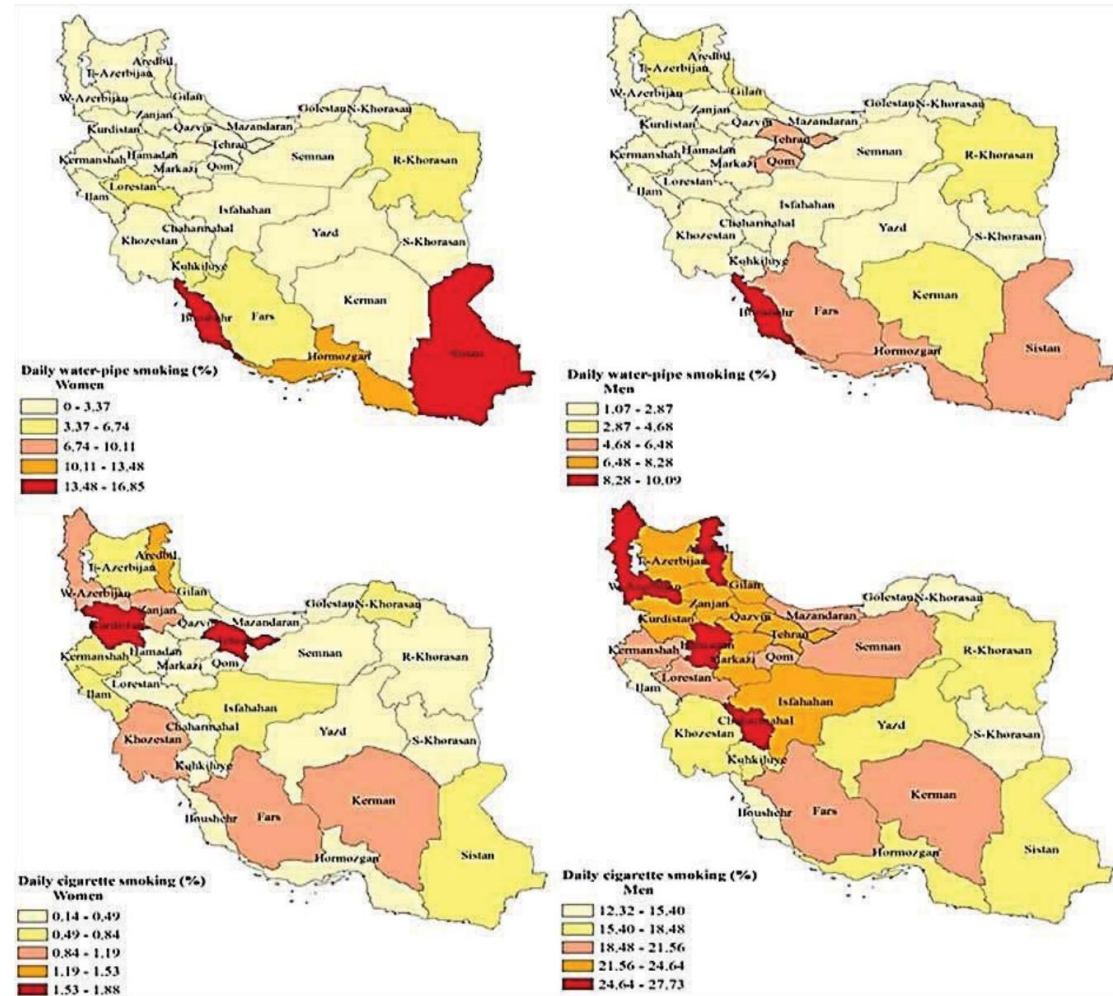


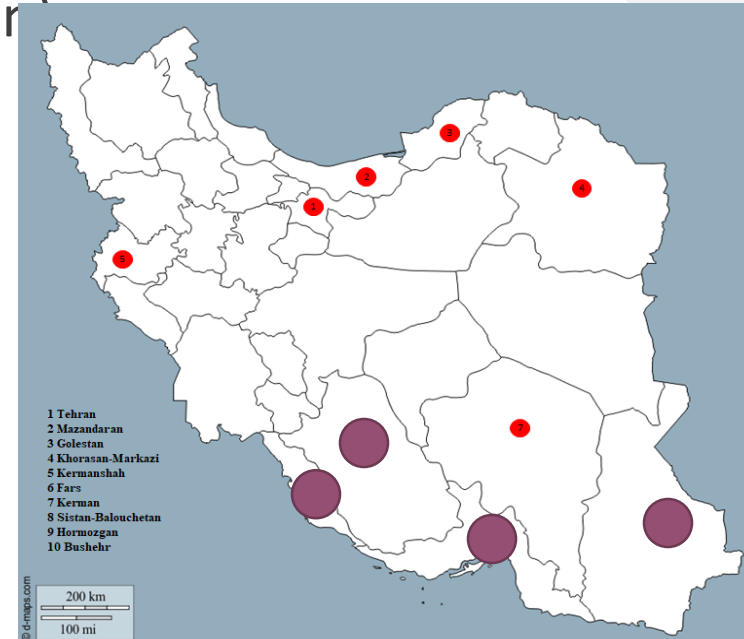
Figure 2. Geographical pattern of cigarette and water-pipe use among Iranian adults by sex: Analysis of National STEPS Surveys

Cancer incidence in Iran in 2014: Results of the Iranian National Population-based Cancer Registry

Region	Province	Total population	All cases	Breast	Colorectal	Stomach	Thyroid	Leukaemia	Lung	Nervous system	Esophagus	Ovary	Uterus	All sites	All sites But C44*
North/ North West	Ardabil	631,000	739	12.68	10.39	20.62	5.96	7.58	4.70	5.13	11.10	2.80	2.81	124.6	113.69
	Golestan	936,000	1,146	33.15	13.85	10.95	3.20	5.95	8.04	4.57	11.71	4.23	1.56	140.16	134.8
	Guilan	1,274,000	1,585	26.32	10.01	9.05	8.06	2.99	2.55	3.69	3.36	2.87	2.54	102.1	94.63
	Mazandaran	1,573,000	2,178	31.93	10.25	11.83	4.90	4.81	3.65	1.65	4.50	3.39	3.95	123.45	116.91
	North Khorasan	452,000	506	22.63	7.85	11.02	2.77	4.59	4.39	7.02	15.47	2.58	3.10	126.71	118.87
	East Azarbayjan	1,891,000	3,130	23.69	15.69	18.08	7.18	3.05	10.25	5.58	9.69	3.58	3.93	155.04	142.48
	Kurdistan	762,000	669	15.07	6.27	13.05	1.90	3.61	4.19	3.67	8.71	1.66	1.35	96.51	87.1
	West Azarbayjan	1,587,000	2,291	24.85	12.52	17.32	3.76	6.91	9.07	8.31	11.11	5.10	2.37	157.26	144.73
	Zanjan	525,000	831	22.22	10.86	20.32	4.84	2.15	5.84	8.57	17.52	4.80	13.56	163.55	153.77
West	Hamedan	893,000	965	19.59	9.15	6.47	5.50	5.81	3.74	3.88	2.59	3.90	0.91	102.62	93.96
	Ilam	285,000	292	31.12	14.97	9.37	4.35	5.87	3.04	1.13	11.42	0.98	1.39	124	108.98
	Kermanshah	981,000	1,100	28.15	10.24	4.89	4.89	7.36	5.09	3.25	3.89	3.04	1.75	112.59	105.12
	Khoozestan	2,347,000	2,623	38.43	9.82	6.32	5.95	6.49	5.43	4.54	2.64	3.88	2.53	136.65	122.96
	Lorestan	897,000	733	14.71	5.69	10.13	4.37	2.46	5.33	1.65	4.72	2.19	1.18	87.66	77.8
Center	Alborz	1,260,000	1,305	31.61	10.36	7.06	2.86	3.24	2.74	2.57	3.20	4.51	3.28	111.41	103.18
	Chaharmahal_Bakhtiari	460,000	482	23.42	9.89	5.96	12.13	2.62	3.11	2.24	1.91	3.38	1.69	115.8	104.84
	Ghazvin	610,000	736	23.11	9.95	8.31	7.77	6.18	4.38	4.51	2.81	3.60	2.28	124.96	112.39
	Isfahan	2,469,000	4,368	42.65	13.33	6.42	12.99	12.21	4.50	5.60	2.13	6.01	5.03	170.91	155.6
	Kerman	1,524,000	1,840	29.93	8.01	7.32	9.94	5.73	5.72	4.99	1.60	5.22	3.64	141.12	127.87
	Kohkilooye_Boyerahmad	345,000	387	21.82	9.71	13.15	16.24	5.61	3.98	3.35	3.53	1.34	1.36	141.68	118.8
	Markazi	719,000	803	21.84	9.67	8.16	2.55	5.03	4.55	5.46	1.72	4.47	1.69	104.6	97.23
	Semnan	327,000	501	46.93	16.64	10.23	2.59	5.25	5.01	6.81	4.95	6.15	3.45	153.46	142.72
	Tehran	6,228,000	10,850	51.00	15.78	7.81	6.87	4.47	4.70	5.58	3.05	6.32	5.63	164.22	150.45
	Yazd	517,000	1,002	47.50	15.35	4.54	15.59	9.38	5.30	9.91	3.33	6.45	6.55	200.53	181.47
East	Razavi Khorasan	3,130,000	4,978	45.89	14.76	10.11	7.47	4.34	5.40	5.27	10.34	4.36	3.78	173.24	158.37
	Sistan_Baloochestan	1,364,000	743	16.36	6.20	5.59	3.54	2.48	2.67	3.24	5.93	2.60	1.41	87.77	82.48
South	South Khorasan	379,000	435	22.87	12.79	9.65	4.83	5.20	6.99	6.07	7.51	2.91	0.94	119.45	112.67
	Bushar	501,000	575	31.97	5.75	9.21	7.53	5.69	14.26	3.81	2.27	3.13	1.64	140.08	130.6
	Fars	2,350,000	3,227	35.79	8.75	6.31	11.74	7.11	4.70	6.35	1.77	5.26	4.26	142.26	129.07
	Hormozgan	822,000	608	26.42	6.13	5.28	4.68	5.31	3.94	2.44	2.39	4.50	1.51	99.33	93.26

Waterpipe Study

- Study Sites (Southern Part of Iran)
 - Fars
 - Bushehr
 - Hormozgan
 - Sistan Balouchestan
- Cancer Sites
 - Head and Neck
 - Bladder
 - Lung





<http://cri.tums.ac.ir/crc/iropican-study/>

English | انتشارات | آموزش و توانمند سازی | پژوهش | درباره مرکز | صفحه نخست

English | فارسی

IROPICAN STUDY:

A Large Multicenter Case-Control Study to Evaluate Association of Opium Use and Risk of Lung, Bladder, Head and Neck and Colorectal Cancers


Opiums Golden Route

Hypothesis / Specific Aim


- To assess sensitivity and specificity of the questionnaire in measurement of opium use in Iranian population;
- To determine association between opium use and lung, colorectal, bladder, and head and neck cancers;
- To determine the role of duration, and dose of opium use in cancer risk;
- To assess geographic variation in association of cancer and opium use;
- To determine the role of route of opium consumption (inhalation, oral use, etc.) on risk of cancer;
- To determine the association between opium metabolites and risk of cancer;

To determine interaction of opium and other established risk factors of cancer including tobacco.

Target sample size	3200 Cases and 3200 Controls
Enrollment update	2563 cases and 2557 controls



موسسه ملی توسعه تحقیقات پزشکی ایران (NIMAD)



Waterpipe smoking (WPS) metrics and bladder cancer (BC) using IROPICAN databased during 2017-2020 in Iran. Excludes opium users, cigarette smokers, and other types of tobacco users.

	OR (95% CI)			
WPS metric	LC	CRC	BC	HN
Ever WPS				
No	Reference	Reference	Reference	Reference
Yes	1.9 (1.3, 2.9)	1.1 (0.8, 1.6)	1.7 (1.1, 2.6)	1.2 (0.8, 1.8)
Frequency				
Occasional	1.7 (0.7, 4.3)	1.3 (0.7, 2.4)	2.9 (1.2, 6.8)	0.6 (0.2, 1.6)
Weekly	1.2 (0.6, 2.7)	1.0 (0.6, 1.9)	1.0 (0.4, 2.4)	1.3 (0.7, 2.5)
Daily	2.4 (1.5, 4.0)	1.1 (0.6, 1.9)	1.7 (0.9, 2.9)	1.6 (0.9, 2.7)
Weekly dose (head-weeks)				
<14	1.4 (0.8, 2.5)	1.1 (0.7, 1.7)	1.0 (0.5, 2.1)	0.9 (0.5, 1.6)
>=14	3.1 (1.8, 5.5)	1.0 (0.5, 2.1)	2.2 (1.2, 4.1)	2.1 (1.1, 3.8)
Unknown	-	-	-	-
Cumulative amount (head-years)				
< 5	1.6 (0.7, 3.4)	1.5 (0.9, 2.5)	1.7 (0.8, 4.0)	1.5 (0.8, 2.7)
5-20	1.4 (0.6, 3.6)	1.0 (0.4, 2.2)	1.5 (0.5, 3.9)	0.9 (0.3, 2.5)
>20	2.6 (1.5, 4.5)	0.8 (0.4, 1.7)	1.7 (0.9, 3.0)	1.4 (0.8, 2.6)
Unknown	-	-	-	-
Tobacco type				
Flavored	2.5 (0.9, 6.8)	1.6 (0.8, 3.2)	1.7 (0.5, 5.9)	1.2 (0.5, 2.8)
Non-flavored	1.9 (1.2, 3.0)	1.0 (0.7, 1.5)	1.6 (1.0, 2.6)	1.2 (0.8, 1.9)
Unknown	-	-	-	-

Conclusion

- Waterpipe smoking is associated with a higher risk of Lung, Bladder, and Head & Neck cancers, particularly among people who don't also use opium or cigarettes.
- Additional studies with higher case numbers are needed to replicate and extend our findings.
- Universities and researchers should prioritize cohort and cases control studies and evaluate association between waterpipe smoking and health outcomes (especially cancer and other cigarette smoking related events)

Background (Overview):

- Waterpipe smoking was estimated to have a global prevalence of 100 million in the early 21st century, most of which were among adolescents.
- Recent evidences from dispersed populations around the world reveal that the rest of the world is catching up with the waterpipe trend.
- While the reviews show unsurprisingly high (often >10%) prevalence estimates in the Eastern Mediterranean region of current waterpipe use, it unexpectedly shows similarly high estimates in several European countries.



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Summary of waterpipe smoking studies on risk of cancer



Cancer	Correspond	City, Country	Case/Control	OR
Bladder	Amr (2014)	Cairo, Egypt	1840/2616	1.42 (1.11–1.83)
	Feki-Tounsi (2013)	Sfax, Tunisia	125/204	1.32 (0.35–5.00)
	Loffredo (2012)	Egypt	1535/2089	1.3 (1.0, 1.8)
	Wolpert (2010)	Cairo, Egypt	239/540	1.70 (0.38–7.67)
	Bedwani (1997)	Alexandria, Egypt	151/157	0.80 (0.20–4.00)
	Makhyoun (1974)	Alexandria ,Egypt	278/278	1.08 (0.77–1.51)
Head and Neck	Quadri (2018)	Jazan, Saudi Arabia	70/140	3.96 (2.11 – 28.83)
	Quadri (2015)	Jazan, Saudi Arabia	48/96	4.20 (1.32–13.3)
	Khelifi (2013)	Sfax, Tunisia	169/351	2.73 (1.65–4.41)
	Feng (2009)	Morocco, Tunisia	636/615	0.49 (0.20–1.23)
	Jaferrey (1976)	Karachi, Pakistan	1192/3562	3.10 (2.23–4.29)
Esophagus	Shakeri (2012)	Golestan, Iran	130/260	2.15(0.91–5.08)
	Dar (2012)	Kashmir Valley, India	702/1663	1.85 (1.41–2.44)
	Khan (2011)	Kashmir Valley, India	100/100	9.11 (4.44–18.7)
	Malik (2010)	Kashmir Valley, India	135/195	21.4 (11.6–39.5)
	Nasrollahzadeh (2008)	Golestan, Iran	300/571	1.69 (0.76–3.77)
	Cook-Mozaffari (1979)	Caspian littoral, Iran	217/343	1.25 (0.74–2.08)



Cancer	Correspond	City, Country	Case/Control	OR
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Cancer	Correspond	City, Country	Case/Control	OR
Lung	Kudhair (2020)	Najaf, Iraq	123/129	2.38 (1.07–5.27)
	Aoun (2013)	Beirut, Lebanon	50/100	6.00 (1.78–20.3)
	Koul (2011)	Kashmir Valley, India	251/500	5.83 (3.95–8.60)
	Hazelton (2001)	Yunnan, China	1289 WP only-2306 WP/cigarettes-8416 non-smokers	RR: 4.39 (3.82, 5.04)
	Gupta (2001)	Chandigarh, India	265/525	1.94 (0.85–4.44)
	Hsairi (1993)	Tunis, Tunisia	110/110	5.70 (1.20–7.60)
	Lubin (1992)	Yunnan, China	427/1011	1.78 (0.80–4.20)
	Lubin(1990)	Yunnan, China	74/74	3.6
	Qiao (1989)	Yunnan, China	107/107	1.90 (0.40–9.40)
Stomach	Nguyen (2022)	Northern Vietnam	80/146	3.09 (1.24, 7.68)
	Xuan Le (2022)	Northern Vietnam	80/25619	HR=3.22 (1.67–6.21)
	Karajibani (2014)	Zahedan, Iran	46/46	4.50 (1.17–17.4)
	Ngoan Tran Le (2016)	Hanoi,Vietnam	454/628	1.8 (1.3–2.4),
	Sadjadi (2014)		36/928	3.44 (1.66–7.11)
	Shakeri (2013)	Golestan, Iran	309/613	1.10 (0.30–3.30)
	Pourfarzi (2009)	Ardabil, Iran	217/394	1.14 (0.29–4.42)



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Cancer	Correspond	City, Country	Case/Control	OR
Colorectal	Azizi (2015)	East Azerbaijan, Iran	207/207	1.26 (0.49–3.27)
	Bener (2010)	Doha, Qatar	146/282	1.02 (0.62–1.68)
Liver	Soliman (2010)	Tanta, Gharbiah, Egypt	150/150	1.13 (0.62–2.78)
Prostate	Hosseini (2009)	Mazandaran, Iran	137/137	4.19 (0.87 - 20.08)
All cancer deaths	Etemadi (2016)	Golestan, Iran	54/50045	1.75 (0.95 to 3.21)
	Wu (2013)	Araihasar, Bangladesh	47/20033	1.30 (0.78–2.18)

- **Objectives:**

- **Capacity building** – to enhance capacity building in waterpipe and cancer research at regional and international levels
- **Regional and global linkages** – Provide a framework to foster international collaborations national, regional and global linkages to generate high quality research and graduate training for waterpipe and health issues.
- **Advocacy and Policy-** promote waterpipe smoking control policies through WHO and other local and international organizations

Steering Committee

Name	Institution
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Mattias Jonasson	International Agency for Research on Cancer

Future plan

- Capacity Building in the high prevalence countries through Training Workshop for EMR researchers
- Conducting new studies in high prevalence countries.
- Fellowship program to supervise students, researchers (UICC, NCI, Italy,)

IROPICAN Study

➤ Investigators

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IROPICAN Study

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Monireh Sadat Seyed Salehi

Genetics




Elmira Ebrihimi

Biobank Manager



Vahideh Peighambari

Job Exposure Analyst



Bayan Hosseini

Collaborative Centers

2023

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Fars Province

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Executive Managers



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Interviewer



Mahin Shiri

Interviewer



Marziyeh Dehghani

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Mina Khaki

2/27/
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Executive Managers



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Interviewer



Bahare Safari

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Focal Points



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Interviewer



Fatemeh Jabbari

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Mahdieh Bakhshi



Mahbubeh Bakhshi

Hormozgan (BANDAR ABBAS) Province



Abdol Azim
Nejatizadehi

Fellowship in clinical
molecular genetics



Masumeh Mahmudi



Foruzan Nematzadeh



Thank you for your attention