



# OPIUM CONSUMPTION

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TO HUMANS

**Table S1.6.2C Exposure assessment quality of studies on cancer of the lung, larynx, and other cancers of the respiratory tract and opium consumption**

Reference and outcome	Type of study	Type of assessment	Exposure assessment relative to outcome	Could the “unexposed” reference group include exposed?	Definition of opium exposure	Intensity of exposure	Duration of exposure	Cumulative exposure	Temporality of opium use relative to study outcome <sup>a</sup>	Type of opium exposure	Method of exposure	Co-exposures collected in paper <sup>b</sup>
Sheikh et al. (2020)	Golestan Cohort	Structured & validated questionnaire (GCSQ)	Prospective	Yes. Includes those who used for < 6 months and/or < 1 × per week)	Defined at least once a week for at least 6 months	Precise nokhod/d d/wk	Lifetime opium use history	Yes Nokhod-years	Past Combined	Raw Prepared Dross (n = 6) Combined Other heroin (n = 4)	Smoke Ingest Both smoke and ingest	Smoking tobacco cumulative pack years Hookah use ever/never Chewing tobacco e.g. Nass cumulative nass years Alcohol ever/never Food quality household fuel
Rahmati et al. (2017) Malignant respiratory disease mortality, lung cancer mortality, laryngeal cancer mortality	Golestan Cohort Study	Structured & validated questionnaire	Prospective	Yes. Includes those who used for < 6 months and/or < 1 × per week	Defined (at least once a week for at least 6 months)	Precise (nokhod/d d/wk)	Lifetime opium use history	Yes (nokhod-days)	Combined	Raw Prepared Dross (n = 6) Combined Other heroin (n = 4)	Smoke Ingest Both smoke and ingest	Smoking tobacco Hookah tobacco Chewing tobacco e.g. Nass Alcohol
MacLennan et al. (1977) Lung cancer	Case-control	Interview (not clear how systematic)	Retrospective	Yes. Includes opium users who used opium by methods other than smoking	Minimally defined (ever smoked)	No info	Undefined	No	No info	Undefined	Smoke	Smoking tobacco Chewing tobacco Occupational exposures Food Cooking methods Other (domestic incense and mosquito coil exposure)
Khoo (1981) Laryngeal squamous cell carcinoma	Case-control	Undefined/ unclear	Undefined/ unclear	Yes. Includes opium users who do not have addiction	Undefined (opium and/or heroin addiction)	No info	Undefined	No	No info	Undefined	Undefined	Smoking tobacco Alcohol
Mousavi et al. (2003) Laryngeal squamous cell carcinoma	Case-control	Interview (semi-structured)	Retrospective	Yes (No current opium dependency)	Defined (DSM-IV opioid dependent, and opium consumption for at least 5 years)	No info	Undefined	No	No info	Undefined	Undefined	Smoking tobacco Alcohol
Masjedi et al. (2013) Lung cancer	Case control	Structured interview/questionnaire	Retrospective	Yes. Includes those who used for < 6 months and/or < 1 × per day	Defined (at least once a day for 6 months)	Precise- frequency of daily consumption	Lifetime opium use history	Yes, nokod/day-years	Combined	Undefined	Smoke Ingest Both smoke and ingest	Smoking tobacco Alcohol Other (passive smoking)
Bakhshae et al. (2017) Laryngeal cancer	Case control	Interview (not clear how systematic)	Retrospective	Yes. Includes those who used for < 1 year and/or < 1 × per day	Defined (at least once a day for a minimum of one year)	Undefined	Undefined	No	Combined	Undefined	“Snuffing” presumably smoking	Smoking tobacco
Berjis et al. (2018) Laryngeal squamous cell carcinoma	Case control	Telephone interview (no questionnaire mentioned for cases) with patient or family Patient records and public demographic information	Retrospective	Yes. Includes opium users who are not drug addict	Undefined (opium drug addict)	No info	Undefined	No	No info	Undefined	Undefined	Smoking tobacco Alcohol
Alizadeh et al. (2020) Laryngeal squamous cell carcinoma	Case-control	Structured interview & validated GCSQ questionnaire (face-	Retrospective	Yes. Includes those who used for < 6 months and/or < 1 × per week	Defined, any use	Precise (nokhods per day) (Median use in	Lifetime opium use	Yes (average daily use by duration of use)	Combined (excluded use at least 2 years	Combined (no participant had	Smoking	Smoking tobacco, alcohol, food (meat, fruit, vegetables, hydrogenated fats, olive oil),

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Mohebbi et al. (2020) Laryngeal squamous cell carcinoma	Case control (IROPICAN)	Structured & validated questionnaire	Retrospective	Yes. Includes those who used for < 6 months and/or < 1 × per week and those who started using opium 3 years before diagnosis	Defined (at least once a day, day/week for at least 6 consecutive months)	Precise (gram/d)	Lifetime opium use history	Yes, (gram-year)	Combined	Raw Dross (few users) Prepared Heroin (None)	Smoke Ingest Both smoke and ingest	education. No burned opium (sukhteh) or heroin  Smoking cigarette (pack-year) Hookah use (head-year) Alcohol drinking (regular/non-regular) Oral health (Decayed Missing Filled Teeth index)
Naghizadeh-Tahami et al. (2020) Lung cancer	Case-control	Structured & validated questionnaire (GCSQ)	Retrospective	Yes. Includes those who used for < 6 months and/or < 1 × per week)	Defined at least once a week for at least 6 months	Precise (grams/d)	Lifetime opium use history	Yes (gram-years)	Combined	Raw Dross (None) Prepared Heroin (None)	Smoke Ingest Both smoke and ingest	Smoking cigarette (pack-year) Alcohol drinking (regular/non-regular) Food items

<sup>a</sup> Indicates proximity of assessed exposures to the time of cancer occurrence: response options are “recent,” “past,” “combined,” “no info”.

<sup>b</sup> Tobacco use, alcohol, household fuel, diet, tea temperature, occupational exposures and other co-exposures included in the study are listed here.

d, day’ wk, week.

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