Chronic respiratory disease surveys in low/middle-income countries: A systematic scoping review of methodologies and outcomes

Appendix 1 Online Supplementary Document

Supplemental Table	Title
Table S1	MEDLINE search strategy
Table S2	Characteristics of Included Studies

Table S1: MEDLINE search strategy

#1	chronic respiratory disease*.ti,ab.
#2	(chronic obstructive pulmonary disease or obstructive airway* disease*).ti,ab.
#3	((tuberculosis or TB) adj1 (post or history or anterior)).ti,ab.
#4	Asthma.ti,ab.
#5	Asthma/
#6	Pulmonary disease, chronic obstructive/
#7	(prevalence or incidence or epidemiol* or survey or rapid assessment or situation assessment or situational assessment or rar or cohort or surveillance or screening).ti,ab.
#8	exp cohort studies/ or exp mass screening/ or exp population surveillance/
#9	epidemiologic methods/ or epidemiologic studies/ or sentinel surveillance/ or cross-sectional studies/ or public health surveillance/ or sentinel surveillance/ or epidemiological monitoring/ or epidemiologic studies/ or epidemiological methods/
#10	(cost or burden).ti,ab.
#11	africa/ or asia/ or caribbean/ or west indies/ or South america/ or latin america/ or central america/
#12	DEVELOPING COUNTRIES/
#13	((developing or less* developed or under developed or underdeveloped or middle income or low* income or underserved or under served or deprived or poor*) adj3 (countr* or nation* or population* or world)).mp.

#14	((developing or less* developed or under developed or underdeveloped or middle income or low* income) adj1 (economy or economies)).mp.
#15	(low* adj1 (GDP or GNP or gross domestic or gross national)).mp.
#16	(low adj3 middle adj3 countr*).mp.
#17	(LMIC or LMICs or third world or LAMI country or LAMI countries).mp.
#18	(transitional country or transitional countries).mp.
#19	(Afghanistan or Albania or Algeria or Angola or Antigua or Barbuda or Argentina or Armenia or Armenian or Aruba or Azerbaijan or Bahrain or Bangladesh or Barbados or Benin or Byelarus or Byelorussian or Belarus or Belorussian or Belorussia or Belize or Bhutan or Bolivia or Bosnia or Herzegovina or Hercegovina or Botswana or Brasil or Brazil or Bulgaria or Burkina Faso or Burkina Fasso or Upper Volta or Burundi or Urundi or Cambodia or Khmer Republic or Kampuchea or Cameroon or Cameroons or Cameron or Camerons or Cape Verde or Central African Republic or Chad or Chile or China or Colombia or Comoros or Comoro Islands or Comores or Mayotte or Congo or Zaire or Costa Rica or Cote d'Ivoire or Ivory Coast or Croatia or Cuba or Cyprus or Czechoslovakia or Czech Republic or Slovakia or Slovak Republic or Djibouti or French Somaliland or Dominica or Dominican Republic or East Timor or East Timur or Timor Leste or Ecuador or Egypt or United Arab Republic or El Salvador or Eritrea or Estonia or Ethiopia or Fiji or Gabon or Gabonese Republic or Gambia or Gaza or Georgia or Georgian or Ghana or Gold Coast or Greece or Grenada or Guatemala or Guinea or Guam or Guiana or Guyana or Haiti or Honduras or Hungary or India or Maldives or Indonesia or Iran or Iraq or Isle of Man or Jamaica or Jordan or Kazakhstan or Kazakh or Kenya or Kiribati or Korea or Kosovo or Kyrgyzstan or Kirghizia or Kyrgyz Republic or Kirghiz or Kirgizstan or Lao PDR or Laos or Latvia or Lebanon or Lesotho or Basutoland or Liberia or Libya or Lithuania or Macedonia or Madagascar or Malagasy Republic or Malaysia or Malaya or Malay or Sabah or Sarawak or Malawi or Nyasaland or Mali or Malta or Marshall Islands or Mauritania or Mauritius or Agalega Islands or Mexico or Micronesia or Middle East or Moldova or Moldovia or Moldovian or Mongolia or Montenegro or Morocco or Ifni or Mozambique or Myanmar or Myanma or Burma or Namibia or Nepal or Netherlands Antilles or New Caledonia or Nicaragua or Niger or Nigeria or Northern Mariana Islands or Oman or Muscat or Pakistan or Palau or Palestine or Panama or Paraguay or Peru or Philippines or Philipines or Phillipines or Phillippines or Poland or Portugal or Puerto Rico or Romania or Rumania or Roumania or Russia or Russian or Rwanda or Ruanda or Saint Kitts or St Kitts or Nevis or Saint Lucia or St Lucia or Saint Vincent or St Vincent or Grenadines or Samoa or Samoan Islands or Navigator Island or Navigator Islands or Sao

	Tome or Saudi Arabia or Senegal or Serbia or Montenegro or Seychelles or Sierra Leone or Slovenia or Sri Lanka or Ceylon or Solomon Islands or Somalia or Sudan or Suriname or Surinam or Swaziland or Syria or Tajikistan or Tadzhikistan or Tadjikistan or Tadzhik or Tanzania or Thailand or Togo or Togolese Republic or Tonga or Trinidad or Tobago or Tunisia or Turkey or Turkmenistan or Turkmen or Uganda or Ukraine or Uruguay or USSR or Soviet Union or Union of Soviet Socialist Republics or Uzbekistan or Uzbek or Vanuatu or New Hebrides or Venezuela or Vietnam or Viet Nam or West Bank or Yemen or Yugoslavia or Zambia or Zimbabwe or Rhodesia).ti,ab.
#20	or/1-6
#21	or/7-10
#22	or/11-19
#23	20 and 21 and 22
#24	limit 23 to (humans and year="1995 -Current")

Table S2: Characteristics of Included Studies

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Abbasi [1]; 2012; Pakistan	ATS-DLD-78-A	Cross-sectional house-to-house survey	General population	> 18	200 (Not available)	●			●	●
Abu Sham'a [2]; 2010; Palestine	ATS-DLD-78-A	Cross-sectional worksite survey	Farmers	22-77	250 (Not available)	●			●	
Aggarwal [3] 2006; India	IUATLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 15	73,605;100	●				
Agrawal [4]; 2012; India	NFHS-3	Secondary data analysis	General population	20-49	156,316;98	●				

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Agrawal [5]; 2013; India	NFHS-3	Secondary data analysis	General population	20-49	156,316;98	●				
Agrawal [6]; 2014; India	NFHS-3	Secondary data analysis	General population	15-54 (males), 15-49 (female)	117,719 (Not available)	●				
Ahasan [7]; 2000; Bangladesh	Self-designed	Cross-sectional worksite survey	Textile mill workers	18-52	210 (Not available)	●			●	
Akkurt [8]; 2003; Turkey	ECRHS	Cross-sectional survey	General population	> 20	5,448;93.2	●			●	
Akpinar-Elci [9], 2002; Turkey	ATS	Cross-sectional worksite survey	Hairdressers	Mean age: 25.2 ± 10.7	184;89.3	●				
Akpinar-Elci [10]; 2004; Turkey	ATS-DLD-78-A	Cross-sectional worksite survey	Florists	12-66	128;80.5	●			●	
Akpinar-Elci [11]; 2015; Grenada	ATS	Cross-sectional interviewer-assisted house-to-house survey	General population	> 18	225;80.1	●			●	
Akpinar-Elci [12]; 2017; Grenada	ATSDR, Occupational and Environmental Exposure History Questionnaire, ATS, Respiratory Disease Questionnaire, NHANES III, Respiratory Health and	Cross-sectional worksite survey	Nutmeg production workers	48.3 ± 8.1	92 (Not available)	●			●	

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
	Disease Questionnaire									
Alam [13]; 2015; Bangladesh	Self-designed	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	3,744;99.6		●			
Amaral [14]; 2018; 29 Countries	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	18,554 (Not available)					●
Amiri [15]; 2014; Iran	ECRHS	Cross-sectional interviewer-assisted house-to-house survey	General population	NA	857 (Not available)	●				
Andreeva [16]; 2015; Russia	ATS-DLD-78-A and IPCRG Questionnaire	Prospective cohort study	General population	35-70	3,133 (Not available)	●	●			
Andreeva [17]; 2016; Russia	ATS-DLD-78-A	Cross-sectional healthcare facility survey	General population	35-70	2,974 (Not available)		●			
Arias [18]; 2018; Argentina	ECRHS	Cross-sectional computer-assisted telephone survey	General population	20-44	1,521; 51.4	●				
Arora [19];2018; India	Not reported	Cross-sectional interviewer-assisted house-to-house survey	Women	18-59	299 (Not available)					●
Arslan [20]; 2013; Turkey	BOLD	Cross-sectional healthcare facility survey	General population	> 40	946 (Not available)		●			
Athavale [21]; 2017; India	IUATLD	Cross-sectional self-administered house-to-house survey	General population	<20 - 80	1,006 (Not available)	●				
Baatjies [22]; 2009; South Africa	ECRHS	Cross-sectional worksite survey	Bakery Workers	Mean age:32	517 (Not available)	●			●	●

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Badway [23]; 2016; Egypt	CAT	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	2,400;96		●			
Balcan [24]; 2018; Turkey	Self-designed	Cross-sectional healthcare facility survey	clinic/hospital attendees / staff	> 18	424 (Not available)					●
Banda [25]; 2017; Malawi	S1 questionnaire	Cross-sectional interviewer-assisted house-to-house survey	General population	15-99	15,795;95.1				●	
Barbieri [26]; 2006; Brazil	ECRHS, IPAQ	Prospective cohort study	General population	23-25	2,063 (Not available)	●				
Baris [27]; 2011; Turkey	ECRHS	Cross-sectional worksite survey	Teachers	Mean age: 38.9 ± 8.9	685 (Not available)		●			
Boskabady [28]; 2002; Iran	Self-designed	Cross-sectional interviewer-assisted house-to-house survey	General population	≥ 20	5,579 (Not available)	●				
Budhathoki [29]; 2016; Nepal	Self-designed	Cross-sectional worksite survey	Welders	≤ 49	300 (Not available)	●			●	
Buist [30]; 2008; China, Turkey, Austria, South Africa, Iceland, Germany, Poland, Norway, Canada, USA, Philippines, Australia	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	9,425 (Not available)		●			
Caballero [31]; 2008; Colombia	Ferris Respiratory Symptoms and	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	5,539; Not available		●			

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
	Risk Factors Questionnaire									
Caban-Martinez [32]; 2012; Dominican Republic	CDC-Behavioral Risk Factor Surveillance System (BRFSS)	Cross-sectional self-administered community (health fair) survey	General population	18-79	117; 49	●				
Caldeira [33]; 2006; Brazil	Symptoms and Risk Factors Questionnaire	Prospective cohort study	Young adults	23-25	1,922; 93.1	●				
Cardoso [34]; 2012; Brazil	ISAAC	Cross-sectional interviewer-assisted house-to-house survey	General population	6-50	427; Not available	●				
Celedon [35]; 2000; China	ATS-DLD	Cross-sectional interviewer-assisted house-to-house survey	Family with known asthma members	No age limit (7,671 offspring; 5,324 parents)	12,995 subjects in 2,756 families; Not available	●	●			
Celik [36]; 1999; Turkey	ECRHS	Cross-sectional interviewer-assisted survey	General population	18-72	1,056;81.2	●			●	
Chan [37]; 2015; Malaysia	IPAQ and WHO STEPS	Cross-sectional interviewer-assisted house-to-house survey	General population	> 18	18,184;99.7	●				
Chan-Yeung [38]; 2002; China	IUATLD	Cross-sectional interviewer-assisted house-to-house survey	General population	20-44	22,528; Not available	●			●	
Chattopadhyay [39]; 2014; India	St. George's Questionnaire	Cross-sectional worksite survey	Coal-based sponge iron plant workers	Mean age: 35±8	258; 100				●	

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Chhabra [40]; 2001; India	ATS-DLD-78-A, BMRC and the National Heart, Lung and Blood Institute (NHLBI-USA)	Cross-sectional interviewer-assisted house-to-house survey	General population	> 18	4,171; Not available	●	●	●	●	
Chien [41]; 2002; Vietnam	ATS	Cross-sectional worksite survey	Refractory brick facility workers	24-49	158; Not available			●		
Ching [42]; 2014; Malaysia	Canadian case finding questionnaire	Cross-sectional healthcare facility survey	Smokers	> 40	416; Not available		●			●
Chkhaidze [43]; 2009; Georgia	Self-designed	Cross-sectional healthcare facility survey	clinic/hospital attendees / staffs	≥ 5	3,646; Not available	●		●		
Chowgule [44]; 1998; India	IUATLD	Cross-sectional interviewer-assisted house-to-house survey	General population	20-44	2,213;81	●			●	
Choy [45]; 2002; China	Self-designed	Cross-sectional interviewer-assisted house-to-house survey	Elderly	> 70	2,032;59.7	●			●	
Chuaychoo [46]; 2003; Thailand	Self-designed	Not available	General population	> 60	3,094;99.1		●			
Chuchalin [47]; 2014; Russia	GARD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 18	7,164; Not available	●	●	●	●	
Daldoul [48]; 2013; Tunisia	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	717;88.8		●			

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Davey [49]; 2005; Ethiopia	IUATLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 5	3,485 urban 4,164 rural ; 81 urban and 91 rural	●				
de Fátima Macaira [50], 2007; Brazil	ECRHS, ISAAC and MRC questionnaire	Cross-sectional worksite survey	Non-domestic cleaners	Mean age: 35(women), 30.7(men)	341; Not available	●	●			
de Oca [51], 2012; Brazil, Chile,Mexico, Uruguay, Venezuela	PLATINO, SF-12	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	5,571; Not available		●	●	●	
de Oca [52], 2017; Latin America	PLATINO	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	1,743; Not available	●	●			
de Sousa [53] 2011; Brazil	2008 Health Survey of the City of São Paulo (ISA-Capital 2008)	Cross-sectional interviewer-assisted house-to-house survey	General population	≥ 40	1,441;77.5		●			
de Souza [54] , 2010; Brazil	Self-designed	Cross-sectional worksite survey	Charcoal production workers	Mean age: 46.5 ± 13.3	67;100	●	●		●	
Dejsomritrutai [55]; 2006; Thailand	IUATLD	Cross-sectional healthcare facility survey	General population	20-44	3,454; 46.9	●				

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Dejsomritrutai [56]; 2009; Thailand	Self-designed	Cross-sectional house-to-house survey	General population	20-44	268; Not available	●				
Denguezli [57]; 2016; Tunisia	BOLD	Cross-sectional interviewer-assisted house-to-house survey	Non-smokers	> 40	717;90		●			
Dennis [58]; 2012; Colombia	ISAAC	Cross-sectional self-administered survey	General population	Jan-59	5,978; Not available	●				
Desalu [59]; 2009; Nigeria	ECRHS	Cross-sectional interviewer-assisted house-to-house survey	General population	18-65	805;100	●				
Desalu [60]; 2011; Nigeria	ECSC	Cross-sectional interviewer-assisted house-to-house survey	General population	> 35	391;86.7				●	
Deschamps [61]; 1998; Senegal	ATS	Cross-sectional worksite survey	Workers Exposed to Isocyanytes	Mean age: 39.25	96; Not available	●		●	●	
Deveci [62]; 2011; Turkey	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 18	1,206;94.9		●			
Díaz [63]; 2007; Guatemala	ISAAC, IUATLD and MRC questionnaire	Cross-sectional interviewer-assisted house-to-house survey	Women	15-50	350; Not available				●	
Ding [64]; 2012; China	Self-designed	Cross-sectional interviewer-assisted house-to-house survey	General population	> 2	13,050; Not available	●				
Ding [65]; 2015; China	Self-designed	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	5,463; Not available		●			

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Ding [66]; 2018; China	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	5,637; 100		●			
Dong [67], 2013; China	ATS	Self-administered community survey	Women	23-49	30,780; 89	●		●		
Dutta [68]; 2015; India	IUATLD	Cross-sectional interviewer-assisted house-to-house survey	Women	> 40	1,650; Not available			●		
Echazarreta [69]; 2018; Argentina	CAT, mMRC questionnaire	Cross-sectional interviewer-assisted house-to-house survey	General population	≥ 40	4,019; 87		●			
Ehrlich [70]; 2004; South Africa	South African Demographic and Health Survey	Cross-sectional interviewer-assisted house-to-house survey	General population	≥ 15	13,722; Not available				●	
El Hasnaoui [71], 2012	Confronting COPD questionnaire, CAT	Cross-sectional telephone survey	General population	> 40	62,086; 74		●			
El Rhazi [72] , 2016; Morocco	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	966; 96		●			
Erhabor [73]; 2006; Nigeria	IUATLD and MRC questionnaire	Cross-sectional self-administered survey	University students	15-35	903; 90	●			●	
Erhabor [74]; 2016; Nigeria	ECRHS	Cross-sectional self-administered university survey	University students and staff	> 15	Students:2,372 Staff:455; Students: 86.3 Staff: 32	●				

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Fazlollahi [75]; 2018; Iran	ECRHS	Cross-sectional interviewer-assisted house-to-house survey	General population	20-44	24,344; Not available	●				
Fereidouni [76]; 2009; Iran	ECRHS	Community survey	General population	Mean age: 25	1,230; 88	●				
Franco-Marina [77]; 2014; Mexico	PLATINO	Cross-sectional interviewer-assisted house-to-house survey	General population	≥ 40	659; Not available		●			
Gathuru [78]; 2002; Nigeria	ATS	Cross-sectional worksite survey	Civil servants	30-69	410; Not available				●	●
Ghasemkhani [79]; 2006; Iran	modified MRC questionnaire	Cross-sectional worksite survey	Industrial workers	19-70	880; Not available				●	
Gizaw [80]; 2016; Ethiopia	MRC questionnaire	Cross-sectional worksite survey	Cement factory workers	18-60	404; 95				●	
Golshan [81]; 2002; Iran	Self-designed	Cross-sectional healthcare facility survey	General population	13-37	994; 88	●				
Golshan [82]; 2001; Iran	Self-designed	Cross-sectional healthcare facility survey	General population	> 35	4,636; 81		●		●	
Golshan [83]; 2002; Iran	Self-designed	Cross-sectional survey	General population	1-80	994; 88				●	
Golshan [84]; 2011; Iran	European Compendium of Respiratory Standard	Cross-sectional interviewer-assisted house-to-house survey	General population	≥ 40	1,308; 59		●			
Gonzalez-Garcia [85]; 2015; Colombia	ATS-DLD-78-A	Cross-sectional interviewer-assisted house-to-house survey	General population	40-93	5,539; Not available	●				

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Gorgieva [86]; 2010; Kosovo	Self-designed	Cross-sectional interviewer-assisted house-to-house survey	General population	> 18	423; Not available		●			
Gourgoulianis [87]; 2000; Greece	Not reported	Cross-sectional self-administered house-to-house survey	General population	> 55	569; Not available				●	
Guddattu [88]; 2010; India	Not reported	Secondary data analysis	Women	15-49	124,39; Not available	●				
Gunen [89]; 2008; Turkey	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 18	1,160; 93		●			
Gupta [90]; 2006; India	IUATLD	Cross-sectional house-to-house survey	General population	> 15	62,109; Not available	●				
Gupta [91]; 2016; India	IUATLD	Cross-sectional survey	General population	> 60	1,522; Not available	●	●			
Gupta [92]; 2017; India	Self-designed	Community survey	General population	Not available	73; Not available	●	●		●	
Hamatui [93], 2017; Namibia	Adapted questionnaire from another study	Cross-sectional self-administered house-to-house survey	General population	> 18	107; Not available	●	●		●	
Hamzaçebi [94]; 2006; Turkey	ECRHS	Cross-sectional healthcare facility survey	General population	15-80	1,916; 89	●			●	
Han [95]; 2018; Puerto Rico	Self-designed	Cross-sectional interviewer-assisted house-to-house survey	General population	18-64	3,049; 84	●	●			
Horner [96], 2017; pooled data from participating	BOLD, EPISCAN, PLATINO, and PREPOCOL questionnaire	Cross-sectional interviewer-assisted house-to-house survey	General population	Mean age: 56.1 ±11.3	30,874; Not available		●			

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
countries (44 sites)										
Huang [97]; 2013; China	Self-designed	Prospective cohort survey	General population	Not available	49,383; 95		●			
Idolor [98]; 2011; Philippines	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	991; Not available		●			
Ishtiaq [99]; 2014; Pakistan	Self-designed	Cross-sectional worksite survey	Coal Miners	Mean age: 30	400; Not available			●		
Jaganath [100]; 2015; Peru	Not reported	Cross-sectional interviewer-assisted house-to-house survey	General population	> 35	3601; 83		●			
Jeebhay [101]; 2008; South Africa	ECRHS	Cross-sectional worksite survey	Fish processing workers	Mean age: 36± 11	594; Not available	●				
Jie [102]; 2013; China	ECRHS	Cross-sectional self-administered house-to-house survey	General population	> 18	1,207; 95	●			●	
Jie [103]; 2016; China	Self-designed	Cross-sectional self-administered house-to-house survey	General population	> 18	610; Not available					●
Jie [104]; 2016; China	ECRHS II	Cross-sectional self-administered house-to-house survey	General population	> 18	610; 100	●				
Jindal [105]; 2000; India	IUATLD	Cross-sectional healthcare facility survey	General population	> 18	1,283; 86	●				
Jindal [106]; 2006; India	Self-designed	Cross-sectional interviewer-assisted house-to-house survey	General population	> 35	35,295; Not available		●			

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Jindal [107]; 2012; India	IUALTD	Cross-sectional house-to-house survey	General population	> 15	169,575; 96	●		●	●	
Johnson [108], 2011; India	Not reported	Cross-sectional interviewer-assisted house-to-house survey	Rural women	≥ 30	900; Not available		●			
Kahwa [109], 2010; Jamaica	ECRHS II, ISAAC II	Cross-sectional interviewer-assisted house-to-house survey	General population	> 18 (Adult) 2-17 (children)	2163; 89 (adult) 80 (children)	●				
Kavishe [110], 2015; Tanzania and Uganda	WHOSTEPS	Cross-sectional interviewer-assisted house-to-house survey	General population	> 18	1,095 (Tanzania) 916 (Uganda); 80(Tanzania) & 79 (Uganda)		●			
Ko [111], 2008; China	ATS	Cross-sectional healthcare facility survey	Elderly	> 60	1,008; 88		●			
Konuk [112]; 2017; Turkey	Self-designed	Community survey	General population	> 35	500; Not available		●			
Konuk [113]; 2017; Turkey	Not reported	Cross-sectional healthcare facility survey	clinic/hospital attendees/ staff	> 30	1,000; Not available		●			
Koul [114]; 2016; India	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	757; 87	●	●			
Kourlaba [115]; 2018; Greece	ACT, EQ-5D	Cross-sectional telephone survey	General population	> 18	3,946; 99	●				
Kumar [116]; 2017; India	IUATLD	Cross-sectional interviewer-assisted house-to-house survey	General population	18-70	3,194; Not available	●				

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Kurmi [117]; 2013; Nepal	Not reported	Cross-sectional interviewer-assisted house-to-house survey	General population	> 16	1,392; Not available					●
Kurmi [118]; 2015; China	CKB questionnaire	Cross-sectional healthcare facility survey	General population	35-74	512,891; 30		●	●		
Kurt [119]; 2011; Turkey	Self-designed	Cross-sectional healthcare facility survey	General population	> 18	1,047; Not available	●				
Lai [120]; 1995; China	Adapted questionnaire from another study	Cross-sectional interviewer-assisted survey	Elderly	> 70	2,032; 60	●				
Lai [121]; 2013; China	Self-designed	Prospective study, healthcare facility survey	General population	> 15	704; Not available	●			●	
Lam [122]; 2010; China	Not available	Prospective cohort study	Elderly	> 50	8,066; Not available					●
Lâm [123] , 2011; Vietnam	Swedish OLIN	Community survey	General population	21-70	5,782; 83	●		●		
Lam [124]; 2012; China	MRC questionnaire	Prospective cohort study	General population	> 50	18,787; Not available	●	●			
Lam [125]; 2014; Vietnam	GA2LEN, Swedish OLIN	Cross-sectional interviewer-assisted house-to-house survey	General population	23-72	565; 83		●			
Lamprecht [126]; 2011; China, Turkey, Austria, South Africa, Iceland, Germany, Poland, Norway, Canada, USA, Philippines,	BOLD	Cross-sectional interviewer-assisted house-to-house survey	Non-smokers	> 40	10,000; Not available		●			

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Australia, UK and Sweden										
Laniado-Laborin [127]; 2011; Mexico	PLATINO	Cross-sectional healthcare facility survey	Patients at clinic with risk factors	> 40	2,293; 98		●			
Laraqui [128]; 2018; Morocco	ECSC, BMRC questionnaire, ATS and WHO	Cross-sectional worksite survey	Fisherman	> 20	924; 30	●	●		●	
Lim [129]; 2002; Malaysia	BMRC questionnaire	Cross-sectional worksite survey	Cement workers	> 15	1,164; Not available	●		●		
Lin [130]; 2017; Romania	ISAAC	Cross-sectional worksite survey	Teachers	Not available	104; Not available	●				
Lin [131]; 2018; China	CARE	Cross-sectional interviewer-assisted house-to-house survey	General population	≥ 40	164,215; Not available	●				
Liu [132]; 2007; China	Not reported	Cross-sectional healthcare facility survey	General population	> 40	3,286; 77		●			
Liu [133]; 2015; China	BOLD	Cross-sectional healthcare facility survey	Greenhouse farmers	<40 to >60	5,420; 92		●			
Liu [134]; 2017; China	BOLD	Cross-sectional healthcare facility survey	General population	> 20	5,993; 84		●			
Loh [135]; 2016; Malaysia	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	663; 59		●			
Lopez Varela [136]; 2013; Latin America	PLATINO, SF-12	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	5,314; Not available		●			
Lopez Varela [137]; 2016; Argentina,	PLATINO	Cross-sectional healthcare facility survey	General population	> 40	1,540; Not available		●			●

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Colombia, Uruguay, Venezuela										
Lu [138]; 2010; China	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	20,245; 79		●			
Luenam [139]; 2018; Thailand	National Socioeconomics Survey	Secondary data analysis	General population	mean age 43.27 ± 17.37 and 44.38 ± 18.16	33,945; Not available		●	●		
Mackenney [140]; 2005; Chile	ECRHS	Cross-sectional community survey follow-up study	General population	22-28	1,232; Not available	●				
Magitta [141]; 2018; Tanzania	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 35	496; 57		●			
MAHESH [142]; 2009	Self-designed	Cross-sectional interviewer-assisted house-to-house survey	General population	>40	900 (2nd stage); 99.5		●			
Mahesh [143]; 2011; India	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 31	4,333; Not available				●	
Mahesh [144]; 2014; India	BOLD	Cross-sectional interviewer-assisted house-to-house survey	Men	> 30	4,504; Not available		●		●	
Mamane [145]; 2016; Niger	ISAAC	Cross-sectional interviewer-assisted house-to-house survey	People living on farms	>7	471 adults and 229 children; Not available	●	●		●	

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Mannino [146]; 2012; China, Turkey, Austria, South Africa, Iceland, Germany, Poland, Norway, Canada, USA, Philippines, Australia, UK and Sweden	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	9,762; Not available					●
Maranetra [147]; 2002; Thailand	Self-designed	Community survey	Elderly	> 60	3,094; Not available		●			
Maranetra [148]; 2003; Thailand	Not reported	Cross-sectional interviewer-assisted house-to-house survey	Elderly	> 60	3,094; Not available		●			
Masoompour [149]; 2018; Iran	ECRHS	Cross-sectional interviewer-assisted house-to-house survey	General population	20-60	4,582; 96	●				
Mberikunashe [150]; 2010; Zimbabwe	Self-designed	Cross-sectional worksite survey	Textile Industry Workers	Median age: 40	194; Not available					●
Megjhi [151]; 2016; Malawi	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 18	1,469; 74		●			
Mejza [152]; 2017; Malawi, USA, Kyrgyzstan, UK, Saudi Arabia, Norway, Tunisia, South Africa,	BOLD	Cross-sectional healthcare facility survey	General population	> 40	23,855; Not available				●	

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Morocco, Sweden, Germany, India, Portugal , China, Poland, Iceland, Canada, Turkey, Kyrgyzstan, Austria, Philippines, Estonia, Sri Lanka, Australia, Netherlands, Algeria, Albania , India, Malaysia , India , Benin, Nigeria										
Meneghini [153]; 2017; Brazil	ECRHS	Cross-sectional healthcare facility survey	General population	23-25	1,922; Not available	•				
Menezes [154]; 2004; Brazil	ATS-DLD-78-A	Cross-sectional self-administered house-to-house survey	General population	40-69	1,046; 82 (subsample)		•			
Menezes [155]; 2005; Brazil	PLATINO	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	963; 85		•			
Menezes [156]; 2005; Brazil, Chile, Mexico, Uruguay, Venezuela	PLATINO	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	Brazil 1,000; 87. Chile 1,208, 82, Mexico: 1,063, 73, Uruguay:943,		•			

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
					85, Venezuela:1357; 89					
Menezes [157]; 2008; Brazil	ISAAC	Prospective cohort study	General population	> 20	4,297; Not available				●	
Menezes [158]; 2008; Latin America	PLATINO	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	Not available		●			
Menezes [159]; 2015; Brazil	National survey	Cross-sectional technology assisted house-to-house survey	General population	≥ 18	60,202; Not available	●				
Menezes [160]; 2014; Latin America	PLATINO, SF-12, Fagerstrom scale, Baecke questionnaire and Beck Inventory Depression	Prospective cohort study	General population	> 40	885 (Montivedio), 1,173 (Santiago), 963(Sao Paola); 86 of patients in Montevideo, 85 in Santiago and 78 in São Paulo.		●			
Menezes [161]; 2017; Latin America	PLATINO	Cross-sectional healthcare facility survey	General population	> 40	524 in FU study; Not available	●			●	
Meren [162]; 2001; Estonia	Swedish OLIN, IUALTD, ECRHS	Postal survey	General population	15-64	17,525;78	●			●	
Miele [163]; 2016; Peru	WHO STEPS	Cross-sectional house-to-house survey	General population	> 35	2,946; Not available			●		

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Milenkovic [164]; 2011; Serbia	ECRHS	Postal survey	General population	20-80	5,079;58	●			●	
Minas [165]; 2010; Greece	self-designed	Cross-sectional healthcare facility survey	General population	> 30	1,526; Not available		●			
Miszkurka [166]; 2012; Burkina Faso	World Health Survey	Secondary data analysis	General population	> 18	4,822;98	●				
Mohammadi [167]; 2016; Iran	ECRHS	Cross-sectional self-administered university survey	University students	17-35	1,019;89	●				
Moreira [168]; 2015; Brazil	PLATINO	Prospective cohort study, interviewer-assisted, house-to-house	General population	> 40	613;61		●			
Morgan [169]; 2018; Uganda	modified World Health Survey, modified ECRHS and modified ACQ	Cross-sectional interviewer-assisted house-to-house survey	General population	> 35	1,769; Not available	●				
Mountjoy [170]; 2015; multiple countries	Not available	Cross-sectional survey	Athletes	Not available	1,468;81	●				
Mungan [171]; 2018; Egypt, Turkey, Kuwait, Saudi Arabia, UAE	ACT, EQ-5D	Cross-sectional telephone survey	General population	> 18	939; 44	●				
Musafiri [172]; 2011; Rwanda	ATS-DLD-78-A and ECRHS II	Cross-sectional interviewer-assisted healthcare facility survey	General population	15-80	1,920; 9	●	●		●	
Nafees [173]; 2013; Pakistan	ATS-DLD-78-A	Cross-sectional worksite survey	Men	> 18	37296	●		●	●	●

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Nafees [174]; 2016; Pakistan	ATS-DLD-78-A and WHO Respiratory questionnaire	Cross-sectional worksite survey	Textile workers	> 18	372; Not available		●	●	●	
Nafti [175]; 2009; Algeria, Morocco, Tunisia	ACT	Cross-sectional telephone survey	General population	Mean age: 40.3±17.1, 6.5±16.8, 44.3±20.3	62781;67	●				
Nakao [176]; 2017; Mongolia	Not reported	Cross-sectional healthcare facility survey	Hospital attendees	40-79	746;72	●	●			
Ngui [177]; 2011; Malaysia	IUATLD	Cross-sectional interviewer-assisted house-to-house survey	Aborigines	> 1	716; 61	●				
Nguyen Viet [178]; 2015; Indonesia, Vietnam	ATS-DLD-78-A, CAT, WHO questionnaire for assessment of indoor biomass burning	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	1,506 (756 Indonesia, 750 Vietnam); Not available		●		●	
Nriagu [179]; 1999; South Africa	WHO survey for asthma studies	Cross-sectional interviewer-assisted house-to-house survey	General population	adult >18 children <17	1,060 (693 adults, 367 children); Not available	●			●	
Nugmanova [180]; 2018; Ukraine, Kazakhstan, Azerbaijan	ATS Respiratory Symptoms Questionnaire, Allergic Rhinitis Questionnaire, Alcohol Intake, Tobacco	Cross-sectional interviewer-assisted house-to-house survey	General population	> 18	2,842; Not available	●			●	

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
	Smoking Questions									
Nwibo [181]; 2012; Nigeria	Self-designed	Cross-sectional worksite survey	Quarry workers	10 - 60	403; Not available				●	
Obaseki [182]; 2014; Nigeria	ECRHS	Cross-sectional interviewer-assisted house-to-house survey	General population	> 15	2,310; 64	●				
Obaseki [183]; 2016; Nigeria	BOLD	Cross-sectional house-to-house survey	General population	> 40	1,169;76					●
Obaseki [184]; 2017; Nigeria	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	1,147; Not available			●	●	●
Obaseki [185]; 2017; Nigeria	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	1,169; 76					●
Obel [186]; 2017; Democratic Republic of Congo	ISAAC, ECRHS	Cross-sectional interviewer-assisted house-to-house survey	General population	> 18	1,088;83	●				
Ornek [187]; 2015; Turkey	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 18	611; Not available		●			
Ory [188]; 1997; India	Not available	Cross-sectional worksite survey	Tannery workers	Mean age: 33	418; 100	●				
Ozdemir [189]; 2000; Turkey	ECRHS	Cross-sectional self-administered university survey	University students	Mean age: 20	1,515; 95	●				
Padhi [190]; 2008; India	IUATLD	Cross-sectional interviewer-assisted house-to-house survey	General population	20-40	750; Not available	●			●	

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Pan [191]; 2017; China	IPAQ-C	Prospective cohort study	General population	> 50	16,186 (From 30430); 53					●
Papageorgiou [192]; 1997; Greece	ECRHS	Postal survey	General population	20-44	3,325;79	●			●	
Parasuramalu [193]; 2010; India	IUATLD and Standard of Living Index (SLI)	Cross-sectional interviewer-assisted house-to-house survey	General population	18-70	3,194; Not available	●				
Parasuramalu [194]; 2014; India	Adapted questionnaire from another study	Cross-sectional interviewer-assisted house-to-house survey	General population	> 35	1,400; Not available		●			
Pefura-Yone [195]; 2015; Cameroon	ISAAC, ECRHS II	Cross-sectional interviewer-assisted house-to-house survey	General population	> 19	2,304;93	●				
Perez-Padilla [196]; 2012; Uruguay, Brazil, Chile, Venezuala, Mexico	PLATINO, SF-12	Cross-sectional interviewer-assisted house-to-house survey	Never-smokers	> 40	5,315; Not available		●			
Pothirat [197]; 2015; Thailand	ECRHS	Cross-sectional healthcare facility survey	General population	> 40	867; Not available		●			
Pothirat [198]; 2016; Thailand	ECRHS and mMRC	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	574; Not available	●	●			
Priftanji [199]; 1999, Albania	ECRHS	Cross-sectional healthcare facility survey	general population	20-44	2,653; Not available	●			●	
Quansah [200]; 2016; Ghana	Adapted questionnaire	Cross-sectional worksite survey	Farmers	> 18	300; Not available				●	

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
	from another study									
Queiroz [201]; 2012; Brazil	modified PLATINO	Cross-sectional healthcare facility survey	clinic/hospital attendees / staff	> 40	200; Not available		●			
Rabahi [202]; 2015; Brazil	Not mentioned	Cross-sectional healthcare facility survey	clinic/hospital attendees / staff	≥ 40	316; 55		●			
Radwan [203]; 2014; Egypt	Self-designed	Cross-sectional worksite survey	Hospital workers	> 18	415; 81				●	
Rahhal [204]; 2017; Palestine	Self-designed	Cross-sectional worksite survey	Agricultural workers	15-76	98; Not available					●
Rahimi Rad [205]; 2007; Iran	ECRHS	Cross-sectional self-administered university survey	University students and staff	Mean age: 20.8 years	1,500; 95	●			●	
Rahimi Rad [206]; 2008; Iran	IUATLD	Cross-sectional interviewer-assisted house-to-house survey	General population	20-44	2,987; Not available	●				
Rahman [207]; 2013; Pakistan	Self-designed	Cross-sectional worksite survey	Brick kiln workers	25-65	814; Not available		●			
Ramirez-Venegas [208]; 2018; Mexico	PLATINO	Cross-sectional interviewer-assisted house-to-house survey	Women	> 35	1,333; Not available		●		●	
Rao [209]; 2011; India	Self-designed	Cross-sectional interviewer-assisted house-to-house survey	General population	No age limit	29,498; Not available	●				
Regalado [210]; 2006; Mexico	Self-designed	Cross-sectional self-administered house-to-house survey	Women	> 38	841; 97	●	●		●	●

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Rose [211]; 2006; Puerto Rico	National Health Interview Survey (NHIS)	Secondary data analysis	General population	> 18	95,615; Not available	●				
Rumana [212]; 2014; India	Health survey	Cross-sectional survey	General population	Not available	10,000; Not available	●	●			
Sakar [213]; 2006; Turkey	ECRHS	Cross-sectional interviewer-assisted house-to-house survey	General population	> 18	1,336; Not available	●				
Sallaoui [214]; 2007; Tunisia	USOC Sports Medicine Division questionnaire	Cross-sectional survey	Athletes	17-23	107; 100	●				
Sansores [215]; 2013; Mexico	Self-designed	Community (health fair) survey	Smokers	> 40	2,781; Not available		●			
Santos [216]; 2014; Brazil	ECRHS	Cross-sectional healthcare facility survey	Senior care centre users	> 50	318; Not available		●			
Saraclar [217]; 1997; Turkey	ECRHS	Community survey	General population	mean age: 34.5± 10	1,820; 90	●			●	
Schiavi [218]; 2014; Argentina, Colombia, Uruguay, Venezuela.	modified PLATINO	Cross-sectional healthcare facility survey	clinic/hospital attendees / staff	> 40	1,540; 88		●			
Sembajwe [219]; 2010; 64 countries	World Health Survey	Secondary data analysis	General population	> 18	308,218; Not available	●				
Shahzad [220]; 2006; Pakistan	Not reported	Cross-sectional worksite survey	Male leathery tannery workers	Mean age: 27 ± 9	641; Not available	●				

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Shaikh [221]; 2012; Pakistan	ATS-DLD-78-A	Cross-sectional worksite survey	Brick kiln workers	> 18	340; Not available	●		●	●	
Sharifi [222]; 2015; Iran	Previous Validated Questionnaire	Cross-sectional interviewer-assisted house-to-house survey	General population	18-40; >40	1,798; Not available		●		●	
Shishani [223]; 2006; Jordon	Respiratory Risk Profile (RRP)	Cross-sectional house-to-house survey	General population	> 18	400; Not available				●	
Sichletidis [224]; 2005; Greece	MRC questionnaire	Cross-sectional interviewer-assisted house-to-house survey	General population	21-80	6,112; 67 Thessaloniki, 77 Eordea, 87 Grevena		●			
Sichletidis [225]; 2011; Greece	IPAG	Cross-sectional healthcare facility survey	clinic/hospital attendees / staff	> 40	1,078; Not available		●			
Siddanagoudra [226]; 2014; India	Not available	Cross-sectional worksite survey	Spray paint workers	25-35	70; Not available	●				
Siddharthan [227]; 2018; 6 countries and 13 settings in Latin America, Sub-Saharan Africa, and Southeast Asia	Not available	Secondary data analysis	General population	35-95	12,396; Not available		●			
Sigari [228]; 2007; Iran	Not available	Cross-sectional worksite survey	Bakery workers	15-79	776; Not available	●				
Singh [229]; 2013; South Africa	ECRHS	Cross-sectional healthcare facility survey	Dental healthcare workers	Mean Age: 36	454; Not available	●				

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Sinha [230]; 2017; India	modified IPCAG questionnaire	Cross-sectional interviewer-assisted house-to-house survey	General population	> 30	1,203; 99		●			
Smeeton [231]; 2006; Chile	ECRHS	Cross-sectional survey	General population	22-28	601; Not available	●				
Smith [232]; 2014; China	CKB questionnaire	Cross-sectional healthcare facility survey	Never-smokers	30-79	317,000; Not available					●
Sobrino [233]; 2017; South America	self-designed, Global Adult Tobacco Survey	Cross-sectional interviewer-assisted healthcare facility survey	General population	45-74	4,354; 75		●			
Sonia [234]; 2018; Tunisia	ECRHS and ISAAC	Cross-sectional healthcare facility survey	General population	2-52	4,470; 97	●				
Sonomjamts [235]; 2014; Mongolia	ECRHS II and WHO questionnaire on major respiratory disease	Cross-sectional interviewer-assisted house-to-house survey	General population	> 20	1,201; Not available	●				
Soongkhang [236]; 2015; Thailand	ATS-DLD-78-A	Cross-sectional worksite survey	Wood manufacturing factory workers	18-59	511; Not available				●	
Stankovic [237]; 2011; Serbia	ATS	Cross-sectional interviewer-assisted healthcare facility survey	Women	20-40	1082; Not available	●				
Stephen [238]; 2018; India	INSEARCH	Cross-sectional interviewer-assisted worksite survey	Autorickshaw Drivers	> 21	297; Not available		●		●	
Sy [239]; 2007; Vietnam	ECRHS	Cross-sectional healthcare facility survey	General population	15-65	9,984; Not available	●			●	

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Tageldin [240]; 2012; Middle East & North Africa - Algeria, Egypt, Jordan, Lebanon, Morocco, Saudi Arabia, Syria, Tunisia, Turkey, UAE)	Not reported	Cross-sectional telephone survey	General population	> 40	62,086; Not available		●		●	
Tarraf [241]; 2018; Egypt, Turkey, Kuwait, Saudi Arabia, UAE	Global AIR studies screening questionnaire, Score for Allergic Rhinitis (SFAR) questionnaire and EQ-5D-3L questionnaire	Cross-sectional telephone survey	General population	> 18	33,486; 50.9	●				
Tiwari [242]; 1999; India	MRC questionnaire	Cross-sectional worksite survey	Handloom weavers	Not available	319; Not available					
To [243]; 2012; 70 countries	ISAAC, ECRHS	Secondary data analysis	General population	18-45	178,215; 98	●				
Toru [244]; 2014; Turkey	ATS	Cross-sectional worksite survey	Hairdressers, auto painters, carpenters	15-52	225; Not available				●	
Townend [245]; 2017; Tunisia, India, Sri Lanka, Nigeria, Morocco,	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	9,255; 70					●

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Albania, Algeria, Malaysia, Saudi Arabia, Malawi, Kyrgyzstan										
Tug [246]; 2002; Turkey	ECRHS	Cross-sectional healthcare facility survey	General population	Mean Age: 37 years	3,591; Not available	●				
Tug [247]; 2002; Turkey	ECRHS	Cross-sectional healthcare facility survey	General population	Mean age:38.12 years ±12.17	2,454; 95	●			●	
Tzanakis [248]; 2004; Greece	Not available	Cross-sectional interviewer-assisted house-to-house survey	Smokers	> 35	888; Not available		●			
Ugurlu [249]; 2014; Turkey	ECRHS	Cross-sectional interviewer-assisted house-to-house survey	General population	> 18	1,343; Not available	●				
Uthaisangsook [250]; 2010; Thailand	ISAAC and modified ISAAC	Cross-sectional self-administered university survey	University students and staff	17-60	513; Not available	●				
Uthaisangsook [251]; 2007; Thailand	ISAAC	Cross-sectional self-administered university survey	University students and staff	17-53	2,693; Not available	●				
Valenti [252]; 2016; Brazil	Not mentioned	Cross-sectional interviewer-assisted house-to-house survey	General population	> 16	220; Not available					●
van Gemert [253]; 2015; Uganda	CCQ, mMRC questionnaire	Cross-sectional interviewer-assisted house-to-house survey	General population	> 30	588; 97		●			
Varona [254]; 2014; Philippines	ISAAC	Cross-sectional interviewer-assisted house-to-house survey	General population	> 20	7,202; 94	●				

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Vichyanond [255]; 2002; Thailand	ISAAC	Cross-sectional self-administered university survey	University students	16-31	3,631; >90	●				
Viinanen [256]; 2005; Mongolia	Tuohilampi Respiratory questionnaire	Cross-sectional interviewer-assisted house-to-house survey	General population	10 – 60	9,453; Not available	●				
Viswanathan [257]; 2018; India	IUATLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 15	12,556; Not available	●		●		
Waked [258]; 2011; Lebanon	ATS, MRC questionnaire	Cross-sectional healthcare facility survey	General population	> 40	2,201; 73		●			
Waked [259]; 2012; Lebanon	ATS, MRC questionnaire	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	2,201; 73		●	●		
Walraven [260]; 2001; Gambia	IUATLD	Cross-sectional healthcare facility survey	General population	> 15	2,166 (Banjul), 3,233 (Farafenni); 68 (Banjul) 87(Farafenni)	●			●	
Wang [261]; 2005; China	Self-designed	Prospective cohort study	Factory workers	Mean age: 56.3 years	559; 61			●	●	●
Wang [262]; 2013; China	National survey	Cross-sectional interviewer-assisted house-to-house survey	General population	All ages	13,419; 98	●				
Wang [263]; 2015; China	ATS-DLD-78-A	Cross-sectional survey	Farmers	> 40	728; 100				●	
Wang [264]; 2018; China	ECRHS	Cross-sectional interviewer-assisted house-to-house survey	General population	> 20	50,991; 93		●			

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Wilson [265]; 2008; China	ATS-DLD-78-A	Community survey	General population	Mean Age: 47.7years± 15.2	31,704; 83	●				
Xiao [266]; 2006; China	Not reported	Cross-sectional worksite survey	Factory workers	Mean age: 36.6	1,709; 94			●		
Xu [267]; 2001; China	ATS	Cross-sectional healthcare facility survey	General population	8 – 74	10,284; Not available	●			●	
Xu [268]; 2005; China	Not reported	Cross-sectional interviewer-assisted house-to-house survey	General population	> 35	29,319; 90		●			
Yamamoto [269]; 2000; Vietnam	ATS	Cross-sectional self-administered house-to-house survey	General population	30-49	1,416; Not available				●	
Yemaneberhan [270]; 1997; Ethiopia	IUATLD	Cross-sectional interviewer-assisted house-to-house survey	General population	All (0-120)	9,844 + 3,032; >95	●				
Yildiz [271]; 2010; Turkey	ECSC	Community survey	Men who spend long time in cafés	≥ 40	348; Not available		●			
Yin [272]; 2011; China	Self-designed	Cross-sectional interviewer-assisted house-to-house survey	General population	15-69	49,363; Not available		●			
Yingratanasuk [273]; 2002; Thailand	ATS	Cross-sectional worksite survey	Stone cavers	Not available	97; Not available				●	
Zhang [274]; 2002; China	IUATLD, ATS-DLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 15	22,528; 98	●			●	

Author; year; country	Questionnaire	Study description	Population	Age (in years)	Number of participants (n); response rate (%)	Measured outcomes				
						Asthma	COPD	Other CRDs	Symp toms	Lung function test
Zhang [275]; 2014; China	Recommended by the China Asthma Alliance	Cross-sectional interviewer-assisted house-to-house survey	General population	adult >14, children <14	19,861; Not available	●				
Zhang [276]; 2015; China	St. George's questionnaire	Cross-sectional survey	General population	> 6	27,042; Not available	●				
Zhong [277]; 2007; China	BOLD	Cross-sectional interviewer-assisted house-to-house survey	General population	> 40	20,245; 79		●			
Zhou [278]; 2009; China	BOLD	Cross-sectional house-to-house survey	Non-smokers	> 40	20,245; 79		●			
Zoller [279]; 2018; Tanzania	Self-designed	Cross-sectional healthcare facility survey	General population	> 18	598; Not available					●
Zubair [280]; 2017; Pakistan	Self-designed	Cross-sectional interviewer-assisted healthcare facility survey	Hospital attendees	18 - 60	517; 100		●			
Zuskin [281]; 2006; Croatia	European Union respiratory health questionnaire and WHO non-communicable diseases questionnaire	Cross-sectional interviewer-assisted house-to-house survey	General population	adults	1,001; Not available	●			●	

Notes and Abbreviation

ACQ - Asthma Control Questionnaire
ACT - Asthma Control Test
ATS - American Thoracic Society
ATS-DLD - American Thoracic Society Division of Lung Disease questionnaire
ATSDR - Agency for Toxic Substances and Disease Registry
BMRC - British Medical Research Council
BOLD - Burden of Obstructive Lung Disease
CAT - COPD Assessment Test
CCQ - Clinical COPD Questionnaire
CDC-BRFS Centers for Disease Control and Prevention Behavioral Risk Factor Surveillance System
CKB - China Kadoorie Biobank
ECRHS - European Community Respiratory Health Survey
ECSC - European Community for Coal and Steel
EQ-5D - EuroQol 5 Dimension
GA2LEN - Global Allergy and Asthma European Network
GARD - Global Alliance against Chronic Respiratory Diseases
INSEARCH- Indian study on epidemiology of asthma, respiratory symptoms and chronic bronchitis in adults
IPAG - International Primary Care Airways Guidelines
IPAQ - International Physical Activity Questionnaires
ISAAC - International Study of Asthma and Allergies in Childhood
IUALTD - International Union against Tuberculosis and Lung Disease (this was later revised and used in the ECRHS Study)
MRC questionnaire - Medical Research Council Respiratory Questionnaire
NHFS3 - National Family Health Survey 3
PLATINO - Latin American Project for the Investigation of Lung Disease
PUMA - used modified PLATINO
SF-12 - 12-Item Short Form Health Survey
USOC - United States Olympic Council
WHS - World Health Survey

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