

Table 1 Characteristics of studies included in systematic review and meta-analysis of cigarette smoking prevalence in Iranian high school students categorized by type of use

Author	Year of publication	City	Sample size			Current smoking prevalence (%)		
			Total	Female	Male	Total	Female	Male
Ziaee	2001	Tehran	4023	2018	2005	4.1	1.0	7.2
Ahmadi	2003	Shiraz	397	200	197	8.3	1.5	15.2
Kelishadi	2004	Isfahan, Najaf Abad, Arak	1950	1004	946	8.7	4.0	12.5
Mojahed	2004	Zahedan	475	259	216	1.3	0.4	2.3
Vafaee	2004	Tabriz	1000	–	–	28.6	–	–
Yazdani	2008	Tehran	502	242	260	3.5	2.0	5.0
Namkin	2008	Birjand	–	–	1233	–	–	3.9
Ramezankhani	2010	Tehran	2340	1079	1216	11.4	10.1	13.1
Rahmanian	2010	Jahrom	1145	456	689	9.9	3.3	14.2
Mohammadkhani	2010	10 provinces	2538	1255	1283	4.4	1.3	7.4
Karimy	2012	Zarand	–	–	250	–	–	14.7
Habib E	2012	Tehran	4591	2499	2092	8.3	5.3	12.1
Moeini	2012	Hamedan	1161	573	588	10.2	6.8	13.4
Shahnazi	2012	Isfahan	–	–	382	–	–	7.2
Mohammadi	2014	Babolsar	–	–	450	–	–	7.4
Karimy	2014	Zarandieh	–	–	350	–	–	15.1
Reisi	2014	Isfahan	–	–	382	–	–	32.0
Meysamie	2015	Tehran	2877	1320	1557	4.4	1.4	7.0
Alizadeh-Charandabi	2015	Sanandaj	1524	760	764	9.9	6.4	13.1
Roohafza	2015	Isfahan	5362	2641	2681	5.8	1.9	9.7
Mohammadi	2017	Marivan	–	–	470	–	–	6.4
Rezaei	2017	Jahrom	630	315	315	2.7	1.6	3.8
Bashirian	2018	Hamedan	–	–	730	–	–	13.2
Sabzmakan	2018	Noshahr	–	–	440	–	–	11.8
Author	Year of publication	City	Sample size			Lifetime prevalence		
			Total	Female	Male	Total	Female	Male
Ziaee	2001	Tehran	4023	2018	2005	30.9	26.9	35.0
Ahmadi	2003	Shiraz	397	200	197	25.4	11.5	39.5
Mojahed	2004	Zahedan	475	259	216	15.6	7.8	25.2
Mojahed	2004	Zahedan	475	259	216	1.6	1.6	0.8
Mohammadpoorasl	2007	Tabriz	–	–	1779	–	–	18.2
Mohtasham Amiri	2008	Rasht	–	–	1297	–	–	28.2
Namkin	2008	Birjand	–	–	1233	–	–	21.3
Pasharosh	2009	Kermanshah	–	3163	–	–	15.0	–
Rahmanian	2010	Jahrom	1145	–	–	21.9	–	–
Ramezankhani	2010	Tehran	2340	1079	1216	36.3	36.5	37.6
Momtazi	2010	Zanjan	537	273	264	21.8	10.3	33.7
Mohammadkhani	2010	10 province	2538	1255	1283	14.7	6.1	23.1
Mohammadpoorasl	2011	Tabriz	–	–	1785	–	–	14.3
Shamshiri Milani	2011	Tehran	–	2313	–	–	12.9	–
Mohammadkhani	2011	National	2538	1255	1238	14.7	6.1	23.1
Karimy	2012	Zarand	–	–	250	–	–	43.7
Mohammadpoorasl	2012	Tabriz	4903	2775	2099	16.4	11.2	22.5
Shahnazi	2012	Isfahan	–	–	382	–	–	32.7
Nazarzadeh	2013	Zanjan	–	–	1064	–	–	23.4
Pirdehghan	2013	Yazd	460	187	273	23.3	12.8	30.8
Mohammadi	2014	Babolsar	–	–	450	–	–	30.1
Barati	2014	Hamedan	–	–	810	–	–	17.2

Table 1 Characteristics of studies included in systematic review and meta-analysis of cigarette smoking prevalence in Iranian high school students categorized by type of use (concluded)

Author	Year of publication	City	Sample size			Lifetime prevalence		
			Total	Female	Male	Total	Female	Male
Khajehdaluee	2014	Sarakhs	943	436	507	19.2	13.8	23.9
Bidel	2014	Ilam	–	–	1000	–	–	11.4
Meysamie	2015	Tehran	2877	1320	1557	12.1	9.9	13.8
Roohafza	2015	Isfahan	5362	2641	2681	11.6	6.8	16.5
Chaman	2015	Shahroud	–	–	450	–	–	12.8
Ayubi	2017	Zanjan	–	–	958	–	–	23.4
Karimi	2017	Shiraz	–	–	900	–	–	19.7
Khayyati	2017	East Azerbaijan	4422	1990	2432	8.9	5.5	11.8
Mohammadi	2017	Marivan	–	–	470	–	–	34.7
Pirdehghan	2017	Yazd	704	256	448	17.4	9.8	21.9
Bashirian	2018	Hamedan	–	–	730	–	–	27.2

Author	Year of publication	City	Sample size			Regular		
			Total	Female	Male	Total	Female	Male
Heidari	2004	Tehran	119	–	–	3.4	–	–
Mojahed	2004	Zahedan	475	259	216	1.2	0.4	2.3
Heydari	2007	Tehran	1095	381	712	5.0	2.0	6.0
Mohammadpoorasl	2007	Tabriz	–	–	1779	–	–	4.4
Mohtasham Amiri	2008	Rasht	–	–	1297	–	–	6.7
Pasharosh	2009	Kermanshah	–	3163	–	–	1.1	–
Rahmanian	2010	Jahrom	1145	–	–	14.2	–	–
Ramezankhani	2010	Tehran	2340	1079	1216	3.3	2.1	4.2

Author	Year of publication	City	Sample size			Regular		
			Total	Female	Male	Total	Female	Male
Mohammadpoorasl	2011	Tabriz	–	–	1785	–	–	2.8
Mohammadpoorasl	2012	Tabriz	4903	2775	2099	4.0	0.5	9.2
Nazarzadeh	2013	Zanjan	–	–	1064	–	–	10.8
Heydari	2013	Tehran	–	–	1271	–	–	6.3
Bidel	2014	Ilam	–	–	1000	–	–	1.3
Mohammadi	2014	Babolsar	–	–	450	–	–	7.5
Mohammadi	2014	Babolsar	–	–	450	–	–	2.3
Barati	2014	Hamedan	–	–	810	–	–	2.7
Meysamie	2015	Tehran	2877	1320	1557	2.4	0.2	4.3
Mohammadi	2017	Marivan	–	–	470	–	–	4.7
Khayyati	2017	East Azerbaijan	4422	1990	2432	2.0	0.6	3.1
Ayubi	2017	Zanjan	–	–	958	–	–	10.8
Ataeias	2018	Tabriz	1161	566	567	5.9	1.2	10.6

Eastern Mediterranean Region, the prevalence of current cigarette smoking in university students was 11% in Pakistan (116), 18% in Palestine (32.8% in men vs 3.6% in women) (117) and 24.7% in the Syrian Arab Republic (39.82% in men vs 5.54% in women) (118). The global estimates in health profession students showed that the prevalence of smoking varies by region. The highest prevalence was reported in Europe, where the prevalence in men ranged from 36% among nursing students to 55.8% among pharmacy students. In the Eastern Mediterranean Region, the prevalence varied from 3% to 6% in women

and 20% to 28% in men (119). Compared with these national reports, in our study, the prevalence of smoking among Iranian students, especially women, seems to be lower than in European countries, but similar to most Eastern Mediterranean countries. One explanation for the lower prevalence of cigarette smoking in the Eastern Mediterranean Region, including the Islamic Republic of Iran, may be the increasing tendency of young adults to try other types of tobacco, mainly water pipe smoking. In the Islamic Republic of Iran, the prevalence of life-time and current water-pipe smoking among students was