

Appendix 1 Characteristics of the included studies

Study ID	Author and publication year	Country	Sample size (age/age group)	Dental caries index	Caries prevalence (dentition)	Caries attributable factors
1	Ahmed Naseeb, 2016(9)(A)	Bahrain	810 (12 yr)	WHO 2013, DMFT	70% (P)	Intake of fermentable carbohydrates
2	Ahmed Naseeb, 2016 (B)	Bahrain	428 (15 yr)	WHO 2013, DMFT	75% (P)	
3	El Shazly& Hala, 2016(10)	Egypt	1283 (13 yr)	Klein, Palmer and Knutson for DMFT	62.8% (P)	Low socioeconomic condition, faulty food habits
4	Saied-Moallemi et al., 2006(11)	Islamic Republic of Iran	459 (9 yr)	WHO 1997, DMFT	22% (P)	Low caries due to implementation of comprehensive national oral health programme including fluoride mouth rinse and oral health education
5	Meyer-Lueckel et al., 2006(12)(ii)(A)	Islamic Republic of Iran	103 (6 yr)	Klein, Palmer and Knutson for DMFT	83% (P)	
6	Meyer-Lueckel et al., 2006 (ii)(B)	Islamic Republic of Iran	93 (6 yr)	Klein, Palmer and Knutson for DMFT	81% (P)	Socioeconomic background, dietary sources of fluoride, and urbanization
7	Meyer-Lueckel et al., 2006 (ii)(C)	Islamic Republic of Iran	51 (6 yr)	Klein, Palmer and Knutson for DMFT	88% (P)	
8	Meyer-Lueckel et al., 2006 (ii)(D)	Islamic Republic of Iran	106 (9 yr)	Klein, Palmer and Knutson for DMFT	77% (P)	
9	Meyer-Lueckel et al., 2006 (ii)(E)	Islamic Republic of Iran	90 (9 yr)	Klein, Palmer and Knutson for DMFT	70% (P)	
10	Meyer-Lueckel et al., 2006 (ii)(F)	Islamic Republic of Iran	80 (9 yr)	Klein, Palmer and Knutson for DMFT	72% (P)	
11	Meyer-Lueckel et al., 2007(13)(i)(A)	Islamic Republic of Iran	115 (12 yr)	Klein, Palmer and Knutson for DMFT	45% (P)	
12	Meyer-Lueckel et al., 2007 (i)(B)	Islamic Republic of Iran	89 (12 yr)	Klein, Palmer and Knutson for DMFT	55% (P)	Socioeconomic class, parental education, consumption of refined carbohydrates
13	Meyer-Lueckel et al., 2007 (i) (C)	Islamic Republic of Iran	80 (12 yr)	Klein, Palmer and Knutson for DMFT	45% (P)	
14	Meyer-Lueckel et al., 2007(i)(D)	Islamic Republic of Iran	129 (15 yr)	Klein, Palmer and Knutson for DMFT	74% (P)	
15	Meyer-Lueckel et al., 2007 (i)(E)	Islamic Republic of Iran	100 (15 yr)	Klein, Palmer and Knutson for DMFT	66% (P)	
16	Meyer-Lueckel et al., 2007 (i)(F)	Islamic Republic	80 (15 yr)	Klein, Palmer and Knutson for DMFT	49% (P)	
17	Hamissi et al., 2008(14)	Islamic Republic of Iran	390 (15 yr)	WHO 1997, DMFT	75% (P)	
18	Ahmadzadeh et al., 2015(15) (A)	Islamic Republic of Iran	220 (6–8 yr)	WHO 1997, DMFT	25.9% (P)	Sugar consumption and poor dental health
19	Ahmadzadeh et al., 2015(B)	Islamic Republic of Iran	104 (9–10 yr)	WHO 1997, DMFT	71.2% (P)	
20	Ahmadzadeh et al., 2015 (C)	Islamic Republic of Iran	84 (11–12 yr)	WHO 1997, DMFT	83.3% (P)	
21	Ahmed, 2007(16)	Iraq	392 (12 yr)	WHO 1997, DMFT	62% (P)	

Appendix 1 Characteristics of the included studies (concluded)

Study ID	Author and publication year	Country	Sample size (age/age group)	Dental caries index	Caries prevalence (dentition)	Caries attributable factors
22	Hamza, 2012 (17)	Iraq	390 (12 yr)	WHO 1997, DMFT	55.4% (P)	?
23	EL-Qaderi and Taani, 2006(18)	Jordan	1362 (14–15 yr)	WHO 1987, DMFT	76% (P)	Low caries compared to previous study due to widespread use of fluoridated toothpaste and improvement in oral hygiene habits
24	Rajab et al., 2014(19)	Jordan	2560 (12 yr)	WHO 1997, DMFT	45.5% (P)	High caries associated with poor access to dental services, self-care practices, dental attitudes and consumption of sweets and sugary drinks. Caries high in low and middle socioeconomic classes as compared to upper class
25	Smadi et al., 2016(20)	Jordan	1286 (6–12 yr)	WHO 1997, DMFT	78.7% (P)	Oral health negligence, lack of dental care services
26	Doumit and Doughan, 2018(21) (A)	Lebanon	480 (6–8 yr)	WHO 1997, DMFT	94.43% (P)	?
27	Doumit and Doughan, 2018 (B)	Lebanon	480 (12 yr)	WHO 1997, DMFT	86.92% (P)	
28	Doumit and Doughan, 2018 (C)	Lebanon	480 (15 yr)	WHO 1997, DMFT	77.65% (P)	
29	Huew et al., 2011(22)	Libya	791 (12 yr)	WHO 1997, DMFT	57.8% (P)	Less exposure of fluoride due to limited toothbrushing, poor oral hygiene, consumption of sugar, lack of dental hygienist and oral health education programmes
30	El-Nadeef et al., 2009(23) (i)(A)	United Arab Emirates	1323 (12 yr)	WHO 1987, DMFT	54% (P)	?
31	El-Nadeef et al., 2009 (i)(B)	United Arab Emirates	1328 (15 yr)	WHO 1987, DMFT	65% (P)	
32	Hashim et al., 2010(24)	United Arab Emirates	524 (5 yr)	WHO 1997, dmft	72.9% (D)	?
33	El-Nadeef et al., 2010(25) (ii)	United Arab Emirates	1340 (5 yr)	WHO 1997, dmft	83% (D)	?
34	Al Mashhadani et al., 2017(26)	United Arab Emirates	2237 (12–14 yr)	WHO 2013, DMFT	41.6% (P)	Poor oral hygiene practice, lack of supervision while toothbrushing
35	AlKhayat, 2018(27)	United Arab Emirates	716 (5 yr)	WHO 1987, dmft	42.2% (D)	Negative attitude of parent towards children's dental health
36	Al-Otaibi et al., 2012(28)	Yemen	400 (12 yr)	WHO 1997, DMFT	90.2% (P)	Students with low socioeconomic conditions had least caries compared with students with medium socioeconomic status
37	Al-Mikhlaifi et al., 2017(29)	Yemen	202 (5 yr)	WHO 1997, dmft	62% (D)	?

D = deciduous dentition prevalence, P = permanent dentition prevalence, ? = factors not mentioned. (A–F) are same studies representing different age/age group data. (i, ii) represent two different studies reported by the same author in the same year.

sugar (33), but after 2003 the amount of sugar increased and thus consumption of sugar also increased, which is one of the key causative factors of caries. No literature was found with respect to the oral health policies of the countries included in this analysis.

There were some limitations to our meta-analysis. First, only 2 databases were searched. Second, only English-language articles were selected. In cases where

a combined prevalence (deciduous + permanent) was mentioned, such studies were excluded. Caries prevalence should be reported separately for deciduous and permanent dentition, which aids effective meta-analysis. The meta-analysis was intended to cover the Eastern Mediterranean Region; however, data were only available from 9 countries (Islamic Republic of Iran, Iraq, Yemen, Jordan, Libya, UAE, Bahrain, Lebanon and Egypt). No information was available for countries